

G.E.C.

EVERYTHING ELECTRICAL









**G.E.C.**  
**CATALOGUE**  
**OF**  
**ELECTRICAL**  
**INSTALLATION**  
**MATERIAL**

**SEPTEMBER, 1935**

**THE GENERAL ELECTRIC CO. LTD.**

*(Manufacturers and Wholesale only)*

*Head Office:* Magnet House, Kingsway, London, W.C.2.

Telephone: TEMple Bar 8000 (70 lines).      Telegrams: Electricity, Westcent, London.  
Cablegrams: Polyphase, London.

**Branches throughout Great Britain and in all principal markets of the world.**







## FOREWORD

**T**HIS edition of the G.E.C. Catalogue takes a form differing considerably from those that have preceded it.

In the first place it is much smaller in size, although the number of its pages is practically equal to that of the last issue ; and in the second place it deals only with what may be described broadly as “ Installation Material.”

Two reasons have dictated the policy of departing from the form of the series of general catalogues produced by the Company since the year 1888. Electricity to-day covers so many fields that it would have entailed the preparation of a volume of somewhat cumbersome proportions to describe the manufactures of the G.E.C. in their entirety. Even drastic abridgment could not have been made without defeating the real object of such a catalogue.

In the last edition the necessary abridgment was carried out by abridging each section whilst dealing, in some respects, with all sections. The present edition, however, completely excludes certain sections—such as those which fall under the general heading of “ heavy engineering ” and seasonal “ merchandise ” material—so that the sections included could be dealt with as fully as possible to fulfil the purpose in view.

Hence the issue of a catalogue covering only a part—a very important part, nevertheless—of the output of “ Everything Electrical ” by the Company. And it is believed that its scope is such as to render it of very real service as a book of reference to all who are called upon to deal with electrical installation material.

The compact character of the catalogue and the easy method which it offers for reference to its contents will doubtless appeal to everyone who uses it. So, too, it is hoped, will the arrangement of the details in the various sections which the catalogue comprises, for every effort has been made to furnish all the information and particulars regarding each individual item that is listed, in order to meet the widest needs of the largest number of such buyers.

Separate catalogue sections describing material manufactured by the G.E.C. not embraced by this catalogue will be forwarded on request. A list of these is set out on page 13.

**All the products listed in this Catalogue (unless otherwise specified) are  
MADE IN ENGLAND.**

**Prices apply in Great Britain and Northern Ireland.**







# CONTENTS

	PAGES
Foreword .. .. .	3
G.E.C. Works and Organisation ..	6-8
Distribution Organisation ..	9
Overseas Organisation .. .. .	10
Terms of Business and Conditions of Sale ..	11-12
Heavy Engineering and Merchandising Products	13
Trade Names .. .. .	13
Wires, Cables and Flexibles .. .. .	14-155
Wiring Supplies, instrument wires, insulators, tools, etc. ..	156-229
Wiring Systems .. .. .	230-241
Conduits and Conduit Fittings ..	242-316
Ironclad Switchgear .. .	317-372
Line Contact Breakers, Relays, etc. .. ..	373-388
Switchboard Accessories (Low and Medium Tension) .. ..	389-420
Lighting Supplies—mains switches, fuses, cut-outs, branch switches, ceiling roses, lampholders, plugs and sockets, etc. .	421-501
Osram Lamps .. .. .	502-552
Lighting Fittings and Fixtures ..	553-638
Lighting Fittings Accessories ..	639-680
Lighting Glassware ..	681-694
Small Transformers .. .. .	695-701
Measuring Instruments, testing sets, etc. ..	702-723
Witton Motors and Motor Starters ..	724-742
Fractional H.P. Motors .. .. .	743-758
Electric Bells, signalling apparatus and accessories ..	759-820
Telephones and Accessories ..	821-858
Electric Fans .. .. .	859-933
Useful electrical data .. .. .	934-935
Index (alphabetical and numerical) ..	936-976

# **G.E.C. WORKS AND ORGANISATION**

**The General Electric Co. Ltd.** is the largest British electrical manufacturing organisation in the Empire. Its operations cover the entire field of electrical engineering—from a battery to a dynamo, from a switch to a cable, from a lamp to a complete Central Station equipment. The initials G.E.C. symbolise the manufacture of everything electrical.

Evidence in support of this claim is best furnished by the following list of the Company's associated works, with the principal ranges of plant and apparatus produced at each.

## **Engineering Works, Witton, Birmingham.**

Turbo alternators, slow speed generators, rotary converters, mercury arc rectifiers, rolling mill and colliery winding motors, railway and tramway motors ; ship propulsion plant, industrial electric motors of all types and sizes.

## **Switchgear Works, Witton, Birmingham.**

Metal-clad and cubicle switchboards of all types, oil circuit breakers for indoor and outdoor purposes, H.V. outdoor equipment, protective gear, ironclad switchgear, motor control apparatus, including contactor gear, house service gear, etc.

## **Transformer Works, Witton, Birmingham.**

All classes of transformers, including rotary converter, air blast booster, furnace, mining and testing transformers.

## **Fan and Cleaner Works, Witton, Birmingham.**

Desk fans, ceiling fans, railway fans, ship fans, exhaust fans, fan regulators, " Magnet " vacuum cleaners and floor polishers.

## **Carbon, Lamp-Black and Battery Works, Witton, Birmingham.**

Kinematograph and arc lamp carbons ; lamp-black ; cells of various types ; wireless batteries.

## **Moulded Insulation Works, Witton, Birmingham.**

" Bakelite " moulded products and components for electric light accessories, wireless apparatus, battery boxes ; " Wittonite " moulded products for low tension electrical apparatus, etc.



### **Steel Conduit Works, Birmingham.**

Conduit tubing and fittings of all types, including junction boxes, bends, elbows, connectors, brackets, couplings, sleeves, tees, etc.

### **Fraser & Chalmers Engineering Works, Erith.**

Steam turbines, turbo blowers and compressors, oil engines, pulverised fuel plant, materials handling plant, mining plant, crushing and screening plant, rolling mills, colliery winders, and heavy mechanical equipment.

### **Telephone Works, Coventry.**

Public telephone exchanges (automatic and manual), private exchange equipment, repeater station equipment, telephone instruments—automatic, central battery, magneto and inter-communication, telephone auxiliary appliances, etc.

### **Wireless Apparatus Works, Coventry.**

Radio apparatus, complete sets for A.C. and D.C. mains, battery operated sets, radio-gramophones, public entertainment equipment, loud speakers, etc.

### **Wireless Valve Works, Hammersmith.**

Valves for wireless transmission and reception, wireless rectifying valves, extra high tension rectifying valves for cable testing, X-ray work, etc.; valves for telephone relay services, etc.

### **Instrument Works, Salford.**

Ammeters, voltmeters, wattmeters, battery charging cut-in and cut-outs, electrical circuit breakers and contact makers, relays, electrical protective devices, galvanometers, measuring apparatus, thermostats, electrical controlling devices, etc.

### **Lamp Works, Hammersmith and Wembley.**

OSRAM lamps for general and special lighting services, Pearl OSRAM lamps, gasfilled lamps, vacuum lamps, automobile lamps, "Robertson" and "Osglim" lamps.

### **Accessories Works, Wembley.**

Electric lighting accessories, fuse boards, cut-outs, junction boxes, wall sockets and plugs, bells and indicators, signalling apparatus, etc.

*(Continued on page 8.)*

### **Glass Works, Lemington-on-Tyne and Wembley.**

Glass bulbs for electric lamps and wireless valves, glass tubing, etc.

### **Meter Works, Birmingham.**

Alternating and direct current meters, battery meters, instrument transformers, maximum demand indicators, current limiters, etc.

### **Cable Works, Southampton and Eastleigh.**

Oil-filled cables, paper-insulated cables, bitumen-insulated cables for mines, rubber-insulated cables, telephone cables, bare and insulated aerial wires, flexible cords, cotton and silk covered dynamo wires and strips, etc.

### **Heating and Cooking Apparatus Works, Birmingham.**

Electric furnaces, industrial electric ovens, bakers' ovens, industrial cooking equipment, industrial heating appliances, domestic cookers, hot-plates, fires and radiators, tubular heaters, etc.

### **Electric Light Fittings Works, Birmingham.**

Decorative and industrial electric light fittings, lighting switches, lamp-holders, etc.

### **Household Electric Appliances Works, Birmingham.**

Electric irons, kettles, saucepans, water boilers, toasters, warming plates, wash boilers, shaving pots, car heaters, hair driers, curling-tong heaters, etc.

From the foregoing summary some idea of the comprehensive nature of the Company's manufactures may be gathered. Moreover, it is an indication of the ability of the G.E.C. to act as main contractors for the largest engineering schemes using only plant and equipment designed and manufactured within its own organisation.

In addition to its manufacturing resources, generous provision is made by the Company for research and experimental work. Situated at Wembley is an extensive block of buildings containing the G.E.C. Research Laboratories. These have been equipped with the most modern plant and apparatus available, to deal with every variety of electrical research work likely to be of service to the progress of electrical engineering and to the development of the Company's various products. A large staff of technical experts is engaged permanently in this work. Moreover, the various works carry out investigations into the problems met with during the actual manufacture of plant and apparatus, and in this way a valuable link is provided between workshop and research.

## DISTRIBUTING ORGANISATION

So far-reaching a manufacturing system as that referred to in the preceding pages naturally is supported by a properly co-ordinated selling organisation. The headquarters are at Magnet House, Kingsway, London, whence close touch is maintained with the Company's thirty branches in important towns of Great Britain and Ireland, and upwards of fifty Overseas Branches and Agencies.

The branch establishments, like the Company's headquarters, not only carry substantial stocks of the majority of the goods listed in the pages of this Catalogue, but are also staffed by experts whose services and experience are freely at the disposal of customers.

The Company's terms of business and conditions of sale will be found set out on pages 11 and 12.

Appended is a list of the **Home Branches** of the Company :—

	Address.	Telephone No.
ABERDEEN .. ..	Magnet House, 32, Market Street ..	Central 2770/1
BELFAST .. ..	Magnet House, Queen Street ..	7321/2/3
BIRMINGHAM .. ..	Magnet House, Moor Street ..	Midland 4421/8 (8 lines)
BLACKBURN .. ..	Magnet House, 40/42, Darwen Street	4141/2 (2 lines)
BLACKPOOL .. ..	Magnet House, 24, Birley Street ..	3233 (2 lines)
BRIGHTON .. ..	Regent Hill, Western Road ..	3277 and 3278
BRISTOL.. ..	Magnet House, 26, Victoria Street, 1	24551 (3 lines)
CARDIFF .. ..	Magnet House, Castle Arcade and Womanby Street .. ..	2620
CORK .. ..	Magnet House, Grand Parade ..	823
CROYDON .. ..	516, London Road .. ..	Thornton Heath 3246
DUBLIN .. ..	Magnet House, Trinity Street ..	21335/6/7/8
DUNDEE.. ..	26/30, North Lindsay Street ..	2168/9 (2 lines)
EDINBURGH .. ..	Magnet House, 100, Hanover Street, 2	23241/2/3/4
GLASGOW .. ..	Magnet House, 71, Waterloo St., C.2	Central 9250
GLOUCESTER .. ..	Magnet House, 2, St. Aldate Street..	3017
HULL .. ..	Magnet House, 164, 166, 168, George Street .. ..	Central 34625/6
INVERNESS .. ..	14, Falcon Square .. ..	830
IPSWICH.. ..	Electric House, Lloyds Avenue ..	3771/2/3 (3 lines)
LEEDS .. ..	Magnet House, Wellington Street ..	20671 (3 lines)
LEICESTER .. ..	Magnet House, 33, Rutland Street ..	58111/2
LIVERPOOL .. ..	Magnet House, Church Alley ..	Royal 5380 (6 lines)
MANCHESTER .. ..	Magnet House, Victoria Bridge ..	Blackfriars 3434 (8 lines)
MIDDLESBROUGH ..	Magnet House, 52/58, Corporation Rd.	3621/2
NEWCASTLE-ON-TYNE	Magnet House, Gallowgate .. ..	25160/1/2/3/4
NOTTINGHAM .. ..	Magnet House, 25, Stoney Street ..	43547/8/9 and 43540
PLYMOUTH .. ..	Magnet House, 175, Union Street ..	60226 (3 lines)
SHEFFIELD .. ..	Magnet House, Fitzalan Square, 1 ..	25101/2/3
SOUTHAMPTON .. ..	Magnet House, 149, High Street ..	5631/2/3
STOKE-ON-TRENT ..	Magnet House, South Wolfe Street ..	Hanley 48575
SWANSEA .. ..	Magnet House, Northampton Place..	5026/7/8 (3 lines)



# OVERSEAS ORGANISATION

The Overseas Organisation of the G.E.C. has been developed so as to reduce to the lowest limits the influence of distance.

In Australia, New Zealand, Africa, India, Malaya, China, France, the Argentine, and elsewhere, the G.E.C. is represented by Branch Companies managed by men trained in G.E.C. tradition and fully competent to meet every electrical need. In numerous other markets the Company is represented by Agents chosen for their capacity to give the highest degree of service. Every endeavour is made to keep these Overseas Branches and Agencies in close touch with headquarters so that unity of purpose and of service pervades the world-wide system.

In a large universal electrical manufacturing concern like the G.E.C. the problem of distributing its goods to customers and to various markets is a complicated one. Long experience in this direction has, however, solved most of the difficulties, and to-day the service is as simple and as speedy as it is possible to make it. A high degree of skill and forethought has gone to perfect packing and transport, and every detail is studied to ensure that each consignment will reach the buyer in that condition he expects when dealing with a Company of the prestige and resources of the G.E.C.

Subjoined is a list of the **Overseas Branches** of the Company :—

## **BRITISH GENERAL ELECTRIC CO., LTD.**

SYDNEY (N.S.W.) .. Magnet House, 104/114, Clarence Street  
MELBOURNE (Victoria) .. Magnet House, 388/390, Bourke Street, West  
PERTH (Western Australia) 370/372, Murray Street

## **BRITISH GENERAL ELECTRIC CO., LTD.**

WELLINGTON (N.Z.) .. 31-37, Taranaki Street  
CHRISTCHURCH (N.Z.) .. Hannaford Chambers, 145, Worcester Street (P.O. Box No. 70)  
AUCKLAND (N.Z.) .. Brunswick Buildings, 49, High Street (P.O. Box No. 1794)

## **THE BRITISH GENERAL ELECTRIC CO., LTD.**

JOHANNESBURG (S.A.).. Corner of Loveday and Anderson Streets (P.O. Box No. 2406)  
CAPE TOWN (S.A.) .. Corner of Lower Burg and Riebeeck Streets (P.O. Box No. 1327)  
PORT ELIZABETH (S.A.) 20, Queen Street (P.O. Box No. 42)  
DURBAN (S.A.) .. Magnet House, 56, Field Street

## **FRASER & CHALMERS OF CANADA, LTD.**

MONTREAL (Canada) .. 1411, Crescent Street

## **THE GENERAL ELECTRIC CO. (INDIA), LTD.**

CALCUTTA (India) .. Magnet House, Central Avenue (South) (P.O. Box No. 2329)  
MADRAS (India) .. Magnet House, 5/6, Mount Road (P.O. Box No. 351)  
BOMBAY (India) .. Kaiser-i-Hind Building, Ballard Estate  
DELHI (India) .. 8-E Inner Circle, Connaught Place, New Delhi  
KARACHI (India) .. Mackinnons Buildings, McLeod Road (P.O. Box No. 225)  
LAHORE (India) .. 30, The Mall  
CAWNPORE (India) .. The Mall  
BANGALORE (India) .. Magnet House, 5, South Parade  
TRIVANDRUM (India) .. Main Road  
COIMBATORE (India) .. Magnet House, Avanashi Road  
RANGOON (Burma) .. 57, Lewis Street (P.O. Box No. 234)

## **THE GENERAL ELECTRIC CO., LTD.**

SINGAPORE (Malaya) .. Magnet House, 12, Battery Road (P.O. Box No. 203), Straits Settlements  
KUALA LUMPUR (Malaya) 1, Java Street (P.O. Box No. 256), Federated Malay States

## **THE GENERAL ELECTRIC CO. OF CHINA, LTD.**

SHANGHAI (China) .. 23/27, Ningpo Road (Box No. 503 C.P.O.)  
HONG-KONG (China) .. 2, Queen's Buildings (G.P.O. Box No. 15)  
TIENTSIN (China) .. Victoria Park Mansions, 202, Taku Road  
DAIREN (Manchuria) .. Hong-Kong and Shanghai Bank Building (Echigo-cho)

## **ANGLO-ARGENTINA GENERAL ELECTRIC CO., LTD.**

BUENOS AIRES (Argentina) 1475/1483, Rivadavia (Plaza de Congreso)

## **GENERAL ELECTRIC DE FRANCE, LTD.**

PARIS .. 10/12, Rue Rodier

*Agents in all other Principal Towns throughout the World.*

# TERMS OF BUSINESS AND CONDITIONS OF SALE

## 1.—HOW TO ORDER.

### WHEN ORDERING—

- (a) **Quote Section Letter and Catalogue No.** If special quotation has been submitted, give quotation reference also.
- (b) State whether order to be sent in one consignment only, or whether immediate delivery is to be made of what is in stock.
- (c) If it is not imperative that the exact articles specified be sent, add the words **"or similar."**

### TELEPHONE ORDERS—

The telephone number of the G.E.C. Head Office, Magnet House, Kingsway, is TEMple Bar 8000 (70 lines). That of each of the Company's Home Branches will be found on page 9 of this Catalogue.

The Company is prepared to execute orders from its customers received by telephone, but in the interests of customers themselves all such orders should be confirmed in writing. **All Orders confirming Verbal Orders should be plainly marked "Confirmation."**

### CORRESPONDENCE—

Owing to the variety of the goods handled by the Company, letters and telegrams dealing with orders should specify—

- (a) Order number and date.
- (b) The nature of the goods, or the Section of the Catalogue concerned.

## 2.—A WARNING.

Instances have occurred where Shippers, Merchants, Contractors, and others receiving indents, specifications, and orders for goods described merely by reference to letters and numbers contained in the Company's Catalogues have quoted for or supplied the goods of other manufacturers under the said letters and numbers. The Directors of the Company have been advised that such action is a fraud upon the Company's rights, and have been successful in obtaining an injunction and damages in proceedings taken in the Chancery Division of the High Court of Justice. The injunction restrained (inter alia) the use or employment in connection with electrical goods not manufactured or supplied by the Plaintiffs, of letters or figures having reference to the Plaintiff's Catalogue, so as to induce the belief that such goods are manufactured or supplied by the Plaintiffs.

While inviting all persons engaged in the electrical trade to make frequent reference to the Company's Catalogue as a standard work on electrical materials and goods, the Directors feel bound to issue this warning against an improper use of the Catalogue.

## 3.—GENERAL CONDITIONS OF SALE.

The Company will use its best endeavours to execute Orders to time, but under no circumstances will be responsible for late delivery.

The Catalogue prices are those ruling on date of issue and are subject to alteration without notice.

The Company reserves the right to cancel any uncompleted Order or suspend delivery in the event of any of the buyers' engagements not being duly met, or if it has reason to believe that such engagements may not be met.

**RETURNS.**—Goods cannot be taken back later than **10 days** from date of Invoice.

Returned goods will not be accepted unless accompanied or preceded by an Advice Note.

Advice Note must state reason for the return of goods, the date, reference letter and number of the Invoice on which the goods were charged.

The acceptance of returned goods does not necessarily entitle to credit for same. Credit can only be given when the claim has been examined and found correct.

Goods should not be returned in cases consigned as "empty," since, if so consigned, they are very liable to get lost in transit, or overlooked, in which case the Company will not hold itself responsible, and no credit can be given.

*(Continued on page 12.)*

**BREAKAGE, DAMAGE AND PILFERAGE.**—Except in special cases the Company does not hold itself responsible for any loss or damage in transit.

Goods should be examined immediately on delivery, and in case of breakage, damage, or pilferage the Consignee should notify the Carriers immediately, and lodge a claim within three days of delivery, keeping the broken or damaged articles for examination. In the case of non-delivery a claim must be lodged with the Carriers within fourteen days of despatch.

**ALLEGED SHORTAGE.**—Claims for alleged shortage can only be entertained if received within three days of receipt of goods and if accompanied by fullest possible particulars of case, number, condition, etc.

**CONSEQUENTIAL DAMAGE.**—Whilst every care is taken to ensure correct execution of orders, and whilst any faulty goods are of course replaced, the Company will not entertain claims for consequential damage, loss of time sustained, or cost of repairs executed without previous consent.

**SUBSTITUTION OF IMPROVED DESIGNS.**—The Company will supply that pattern which experience has shown to be the best, instead of invariably sending exactly the one that may be ordered.

**DIMENSIONS AND DRAWINGS.**—Although all dimensions and drawings appearing in the Company's Catalogue have been compiled with every possible care, no guarantee is given that same will not be departed from or varied without notice.

---

## HOME ORDERS.

**TERMS OF PAYMENT.**—Ledger accounts will be opened upon satisfactory references being furnished.

Accounts are payable monthly subject to a cash discount of  $2\frac{1}{2}$  per cent. if paid during the month following delivery, unless otherwise agreed (except Electrical Plant P Section of the Company's Catalogue, which is strictly Net).

No Cash Discount will be allowed off Overdue Accounts or Accounts under £1.

Cheques, Postal and Money Orders to be made payable to **The General Electric Company, Limited**, and crossed as follows :—

“**Midland Bank, Limited.**”

**DELIVERY.**—Goods are delivered free within the Company's Van Delivery areas. Outside these areas orders of the value of £5 and upwards will be sent carriage free within the usual delivery areas of the Railway Companies in Great Britain.

(NOTE.—The Company's extensive Van Deliveries cover a radius of approximately 12 miles from the G.P.O., London, and in the case of most of the Provincial Branches, approximately 6 miles from their local G.P.O.)

**CASES.**—All cases and packing material are charged at cost price, full value being allowed if returned in good condition and carriage paid within one month, and duly advised ; only two-thirds value will be allowed on machinery cases.

## EXPORT ORDERS.

**TERMS OF PAYMENT.**—Unless otherwise arranged, customers are requested to provide for payment through a London Bank against Bill of Lading.

Payment for orders received from Export Houses in Great Britain will be  $2\frac{1}{2}$  per cent. Cash within seven days or Net monthly account (except Electrical Plant P Section and Osram Lamps OS Section of the Company's Catalogue, which are strictly Net).

**DELIVERY.**—Free Warehouse or Works. **Electrical Plant** free on rails Birmingham. Extra charge for delivery f.o.b., case and packing.

---

**THESE TERMS ARE SUBJECT TO MODIFICATION BY SPECIAL CONDITIONS RELATING TO DIFFERENT DEPARTMENTS, DETAILS OF WHICH WILL BE SENT ON REQUEST.**

# HEAVY ENGINEERING AND MERCHANDISING CATALOGUE SECTIONS

The subjoined sections of the G.E.C. General Catalogue have **not** been listed in this Bound Catalogue (except in one or two instances in an abridged form). Any of these sectional catalogues will be forwarded on receipt of application, stating which is required.

## SECTION.

- P** (3) WITTON Direct Current Motors
- (4) WITTON Induction Motors
- X** (1) Switchboards
- (2) Switchboard Accessories (Low and Medium Tension)
- (3) Air Break Circuit-breakers, Relays, etc.
- (5) Motor Starters
- (7) Motor Controllers
- (8) Contactor Starters
- (9) Small Transformers
- (10) Contactors, Relays and Accessories
- M** (1) Miniature Measuring Instruments
- (2) Industrial Measuring Instruments
- OV** OSRAM Valves
- SF** (1) Illuminated Signs
- (2) Flashers and Accessories for Illuminated Signs
- WO** (1) Overhead Line Fittings
- (2) Overhead Line Equipment
- F** (1) Electric Light Fittings
- Z** (1) Street Lighting Equipment
- (2) OSIRA Lamps and Lighting Equipment
- D** (1) MAGNET Household Electric Appliances
- (2) MAGNET Electric Fires
- (3) MAGNET Domestic Electric Cooking Equipment
- H** (2) MAGNET Electrically Heated Industrial Appliances
- (3) MAGNET Industrial and Commercial Cooking Equipment

## TRADE NAMES

G.E.C. products are marketed under various trade names, among them the following :—

G.E.C.	WITTON-KRAMER	ROBERTSON
MAGNET	FRASER & CHALMERS	OSGLIM
WITTON	EXPRESS-S.M.S.	SILVERLAC
OSRAM	GECORAY	RHINO
OSIRA	KINARKO	WITTONITE
PIRELLI-GENERAL	PEEL	WEMBLEY
SALFORD	LANDOR	GENALEX



## WIRES AND CABLES

All cables, wires and flexible cords sold by the G.E.C. are manufactured by PIRELLI-GENERAL CABLE WORKS, LTD. (members of the Cable Makers' Association).

The wires, cables and flexible cords described in the following pages are confined mainly to the rubber-insulated type. The activities of the PIRELLI-GENERAL CABLE WORKS, however, embrace every type of insulated cable. The manufacture of rubber-insulated cables is concentrated at Southampton, whilst oil-filled super-tension cable, impregnated paper insulated cable for distribution work, varnished cambric insulated cables for marine work and trunk main telephone cables are made at the Eastleigh Works.

It will be appreciated from the foregoing that with the Company's long experience and intimate technical knowledge of the industry, and with both factories equipped with the most modern machinery, the G.E.C. is able to deal with any transmission problem.

The preparation of the rubber insulation is the most important of all processes so far as rubber-insulated cables are concerned, and no effort is spared to ensure that the materials used in PIRELLI-GENERAL cables are the finest obtainable. Best quality plantation rubber is used. All the ingredients are carefully dried and finely sifted before they are incorporated with the rubber. Every stage in the preparation of the insulation is carried out with meticulous care.

A note of explanation concerning the various grades of insulation described in the following pages may not be out of place. **C.M.A.** cables, with an insulation consisting of one layer of pure rubber and two layers of the highest grade vulcanised india-rubber, and **VICMA** cables, without the layer of pure rubber, but with the two layers of highest grade **V.I.R.**, represent the best quality of **V.I.R.** cable that is available.

In addition to these grades, **NONAZO** cable, with one layer of pure rubber, and **VINAZO**, without the pure rubber—each with two layers of good quality **V.I.R.**—are marketed. While these last named cables are regarded as secondary in quality and performance to the **C.M.A.** and **VICMA** cables, they are suitable for installation under normal conditions and may be used with safety and confidence where cost is a primary consideration.

**VICMA** cables are insulated with a special **V.I.R.** compound, designed to have a somewhat greater resistance to chemical attack and conditions where high temperatures combined with humidity are experienced.

The prices, dimensions, etc., for **VICMA** and **VINAZO** cables are exactly the same as equivalent types of cable in the **C.M.A.** and **NONAZO** cables.

Where there is doubt as to which type of cable should be used for a particular installation, the advice of the G.E.C. is available to customers on request.

Quotations can be given for Pirelli-General Wire, Cable or Flexible Cord made up to meet any special conditions or requirements.

### TERMS AND CONDITIONS OF SALE.

**PRICES.**—Prices to be in accordance with the Price Lists and discounts from time to time determined by the Cable Makers' Association and current on the day each order is received by the G.E.C.

**PAYMENT.**—Accounts are subject to a cash discount of  $2\frac{1}{2}$  per cent for payment in month following the despatch of the goods. An additional  $1\frac{1}{2}$  per cent will be allowed for cash within eight days of date of invoice or against shipping documents.

**DELIVERY.**—**C.M.A.** rubber-insulated cables and flexible cords, and **NONAZO** rubber-insulated cables are sent free to any address in the United Kingdom and Irish Free State.

**PACKING FOR SHIPMENT AND DELIVERY F.O.B. U.K. PORT.**—Packing for shipment will be charged at not less than  $2\frac{1}{2}$  per cent extra on the net invoice value.

**DELIVERY C.I.F.**—Delivery **C.I.F.** will be charged at not less than  $2\frac{1}{2}$  per cent extra on the net price delivered **F.O.B.**

*For general Terms of Business and Conditions of Sale, see pages 11 and 12.*

# WIRES AND CABLES

## FORMS OF PACKING

### DRUMS AND CASES.

The prices quoted for cables will include the loan of a drum or drums with lagging where necessary for a period of three months, the purchaser accepting responsibility for their return, carriage paid, to Pirelli-General Works and for any loss or damage sustained by the Company in respect of these drums. After the expiration of three months, rental will be charged as set out in the schedule given below.

Drums may be purchased either at the time at which the cables are purchased or subsequently. The prices are set out in the schedule below. If a drum is purchased at the time of delivery of the cable the price will be refunded to the purchaser, provided the drum is returned within twelve months in good condition, carriage paid. At the expiration of twelve months, depreciation will be charged at the rate of 5 per cent for each complete period of three months for which the drum is retained in excess of the twelve months' free period. Drums may be purchased subsequently and any rental paid up to the date of purchase may be deducted from the price.

As regards cases, these will be charged for, and the amount credited in full if these are returned carriage paid and in good condition within three calendar months after the month in which the goods are delivered, but not otherwise.

### LIGHT DRUMS (without Iron Tyres).

Diameter of Flange.	Price per Drum (including Lagging).	Weekly Rental.
Inches.	£ s. d.	d.
Up to 15 .. .. .	6 3	1
Above 15 up to 21 .. .. .	12 6	1
Above 21 up to 24 .. .. .	1 0 0	1
Above 24 up to 30 .. .. .	1 10 0	2

### CABLE DRUMS.

Diameter of Flange.	Price per Drum (including Lagging).			Weekly Rental.			
	With Iron Tyres.			Without Iron Tyres.		With Iron Tyres.	
Inches.	£	s.	d.	£	s.	d.	s. d.
Up to 36 .. .. .	4	10	0	2	0	0	6 3
Above 36 up to 42 .. .. .	6	0	0	3	0	0	7 4
Above 42 up to 48 .. .. .	9	0	0	4	0	0	1 0 5
Above 48 up to 54 .. .. .	12	0	0	5	0	0	1 3 6
Above 54 up to 60 .. .. .	14	0	0	6	10	0	1 4 7
Above 60 up to 66 .. .. .	16	0	0	7	10	0	1 6 9
Above 66 up to 72 .. .. .	17	10	0	8	10	0	1 9 10
Above 72 up to 78 .. .. .	19	0	0	10	0	0	1 10 1
Above 78 up to 84 .. .. .	20	0	0	11	10	0	2 0 1
Above 84 up to 90 .. .. .	21	10	0	14	0	0	2 1 4
Above 90 up to 96 .. .. .	27	10	0	17	10	0	2 9 1
Above 96 up to 102 .. .. .	33	0	0	21	10	0	3 3 2
Above 102 up to 108 .. .. .	39	0	0	26	10	0	3 10 7

The above table shows the price at which the drum or drums may be purchased, and alternatively the rate at which rental will be charged in the event of the drums being retained in excess of a period of three months dating from the last day of the month on which the cable is despatched (or advised as ready for despatch, whichever is the earlier) up to and including the date on which the drums are received, carriage paid, at the Works. Accounts for rental will be submitted monthly, any portion of a week being charged as a complete week in the case of the final settlement.

### STANDARD TYPES.

Standard types of rubber-insulated wires and cables (except armoured cables) are stocked in 100 yard lengths and flexible cords in 50 yard lengths. Armoured cables are stocked in long lengths on drums (see above) and can be supplied in coils or on drums according to the lengths and weight.

All lengths under 50 yards of cable, up to and including 19/083 in. (= .1 sq. in.), and under 25 yards of flexible cords are charged at 10 per cent. extra.

Sizes up to 7/036 in. in standard cables are packed as follows:—(A) Taped and Braided, on non-returnable stout cardboard reels. (B) Lead Covered, on non-returnable plywood reels. (C) Tough Rubber Sheathed, on non-returnable stout cardboard reels. (D) Glazed Cotton Braided and Silk Braided Flexible Cords in coils packed in neat cardboard cartons. (E) Bell Wires and other Flexible Cords in coils wrapped in white cloth.



## WIRES AND CABLES

### COMPARISON TABLE OF STANDARDS

The standards for electric lighting cables and wires now adopted include a range of conductors, solid and stranded, ranging in area from .001 to 1 square inch, there being 26 sizes. For the convenience of users who have been in the past accustomed to calculate in the old S.W.G. sizes, a Comparison Table is given below showing the respective equivalents of the present sizes.

PRESENT STANDARD.			OLD STANDARD. <i>Approx. Equivalents.</i>		Standard Weight of Conductor per 1000 yards.	Diameter of Conductor.	Maximum Allowable Resistance for Tinned Copper Wires in Ohms at 60° F. (15.6° C.).
No. and diam. of Wires forming Conductor.	Nominal area.		No. and diam. of Wires forming Conductor.	Nominal area.			
No./Ins.	Sq. ins.	Sq. mm.		Sq. ins.	lb.	ins.	Per 1000 Yds.
1/.036	.001	.66	1/20 S.W.G.	.001	11.77	.036	24.53
1/.044	.0015	.98	1/18 "	.0018	17.58	.044	16.42
3/.029	.002	1.25	3/22 "	.0018	23.37	.062	12.85
3/.036	.003	1.93	3/20 "	.003	36.02	.078	8.26
1/.064	.003	2.08	1/16 "	.0032	37.2	.064	7.761
7/.029	.0045	2.93	7/22 "	.0042	54.39	.087	5.493
7/.036	.007	4.52	7/20 "	.007	83.81	.108	3.53
7/.044	.01	6.75	7/18 "	.0125	125.2	.132	2.363
7/.052	.0145	9.43	7/17 "	.017	174.9	.156	1.692
7/.064	.0225	14.3	7/16 "	.0221	264.9	.192	1.117
19/.044	.03	18.29	19/18 "	.0337	340.4	.22	.8721
19/.052	.04	25.5	19/17 "	.0459	475.5	.26	.6244
19/.064	.06	38.7	19/16 "	.06	720.3	.32	.4122
19/.072	.075	49	19/15 "	.075	911.6	.36	.3257
19/.083	.1	65.1	19/14 "	.0937	1211	.415	.2457
37/.064	.12	75.4	37/16 "	.1168	1403	.448	.2118
37/.072	.15	95.4	37/15 "	.15	1776	.504	.1673
37/.083	.2	127	37/14 "	.182	2360	.581	.1259
37/.093	.25	159	37/13 "	.25	2963	.651	.1003
37/.103	.3	195	37/12 "	.3	3635	.721	.08177
61/.093	.4	262	61/13 "	.4	4886	.837	.06085
61/.103	.5	322	61/12 "	.5	5994	.927	.04961
91/.093	.6	391	61/.112 ins.	.6	7290	1.023	.04079
91/.103	.75	480	91/.101 "	.75	8942	1.133	.03326
127/.093	.85	546	127/13 S.W.G.	.85	10175	1.209	.02923
127/.103	1	669	127/.101 ins.	1	12481	1.339	.02383

# **WIRING TABLES**

*Extract from I.E.E. Regulations for the Electrical Equipment of Buildings,  
September, 1934 (10th Edition).*

**TABLE 5.**

## **V.I.R. CABLES AND PAPER CABLES 1/.036" to 7/.029".**

Current Rating (subject to voltage drop) for vulcanized-rubber-insulated or impregnated-paper-insulated cables\* run :—

- (1) Bunched and enclosed in one conduit, troughing, or casing (Col. 3 or Col. 5 according to the type and number so run) ;
- (2) Bunched, and open (Col. 3 or Col. 5, according to the type and number so run) ;
- (3) Separated and open (Col. 3 only).

Conductor.		Not more than :—Four Single-Core Cables or Two Twin (or concentric) Cables, or One Three-Core Cable.		Not more than :—Eight Single-Core Cables, or Four Twin (or concentric) Cables, or Two Three-Core Cables.	
Nominal Cross-Sectional Area.	Number and Diameter of Wires.	Current Rating (subject to Voltage Drop), for D.C. or Single-phase or 3-phase A.C.	Approximate Length in Circuit for 1-volt Drop with Current Rating in Col. 3 :—Lead plus return, for D.C. or Single-phase A.C. Lead only for balanced 3-phase A.C.	Current Rating (subject to Voltage Drop), for D.C. or Single-phase or 3-phase A.C.	Approximate Length in Circuit for 1-volt Drop with Current Rating in Col. 5 :—Lead plus return, for D.C. or Single-phase A.C. Lead only for balanced 3-phase A.C.
1.	2.	3.	4.	5.	6.
Sq. ins.	No./ins.	amps.	feet.	amps.	feet.
0.001	1/.036	3	40	3	40
0.0015	1/.044	5	36	5	36
0.002	3/.029	5	47	5	47
0.003	3/.036	10	35	8†	42
0.003	1/.064	10	37	8†	46
0.0045	7/.029	15	34	12†	42

NOTE.—Table 5 applies to cables employed in the wiring of buildings, but does not apply to every condition under which cables may be used. (Braided vulcanized-rubber-insulated cables run open are required under Regulation 403 to be spaced on insulators.)

In conditions of abnormally high ambient air temperature, the Notes to Tables 6 and 10 should be consulted for vulcanized-rubber-insulated and impregnated-paper-insulated cables respectively.

The lower limit set to the size of conductor by the permissible voltage drop is dealt with in Regulation 304.

\*Including tough-rubber-protected cables and lead-covered cables, but excluding (for use with alternating current) single-core cables armoured with wire or tape of magnetic material and such ferrous-sheathed cables as are prohibited under Regulation 308.

†These figures (8, 8, 12) may be increased to 9, 9 and 13.5 amperes respectively where a diversity factor can properly be applied to the circuit which feeds the cables forming the group of final sub-circuits.

## WIRING TABLES

Extract from I.E.E. Regulations for the Electrical Equipment of Buildings,  
September, 1934 (10th Edition).

**TABLE 6.**

**V.I.R. CABLES** (see also Table 7), 7/.036" to 127/.103".

Current Rating (subject to voltage drop) for vulcanized-rubber-insulated cables\* run :—

- (1) Bunched and enclosed in one conduit, troughing, or casing (Cols. 3 and 4 or Col. 7, according to the type and number so run) ;
- (2) Bunched, and open (Cols. 3 and 4 or Col. 7, according to the type and number so run).

Conductor.		Not more than :—Two Single-Core Cables.†				Not more than :—Four Single-Core Cables, or Two Twin Cables, or One Concentric Cable.		
		Current Rating (subject to Voltage Drop).		Approximate Length in Circuit (Lead plus Return) for 1-volt Drop with Current Rating in Col. 3 or Col. 4.		Current Rating (subject to Voltage Drop).	Approximate Length in Circuit for 1-volt Drop with Current Rating in Col. 7.	
Nominal Cross-Sectional Area.	Number and diam. of Wires.	D.C.	Single-phase A.C.	D.C.	Single-phase A.C.	D.C., or Single-phase or 3-phase A.C.	Lead plus Return for D.C.	Lead plus Return for Single-phase A.C. Lead only for balanced 3-phase A.C.
1.	2.	3.	4.	5.	6.	7.	8.	9.
Sq. ins.	No./ins.	amps.	amps.	feet.	feet.	amps.	feet.	feet.
0.007	7/.036	24	24	33	33	19	41	41
0.01	7/.044	31	31	39	39	25	49	49
0.0145	7/.052	37	37	45	45	30	56	56
0.0225	7/.064	46	46	55	55	37	69	69
0.03	19/.044	53	53	61	60	42	76	76
0.04	19/.052	64	64	71	70	51	89	89
0.06	19/.064	83	83	83	80	66	104	104
0.075	19/.072	97	97	90	86	78	113	113
0.1	19/.083	118	118	98	92	94	123	120
0.12	37/.064	130	130	103	94	104	129	123
0.15	37/.072	152	152	112	97	122	140	127
0.2	37/.083	184	184	123	98	147	154	128
0.25	37/.093	214	214	132	98	171	165	128
0.3	37/.103	240	240	145	97	192	181	128
0.4	61/.093	288	288	162	90	230	202	119
0.5	61/.103	332	332	172	82	266	215	107
0.6	91/.093	384	366	181	79	—	—	—
0.75	91/.103	461	425	185	69	—	—	—
0.85	127/.093	512	463	190	64	—	—	—
1.0	137/.103	595	520	200	59	—	—	—

NOTE.—Table 6 applies to cables employed in the wiring of buildings, but does not apply to every condition under which cables may be used. (Braided vulcanized-rubber-insulated cables run open are required under Regulation 403 to be spaced on insulators.)

Table 6 refers to situations where the ambient air temperature does not exceed 100° F. (37.7° C.). Where the ambient air temperature is abnormally high the current ratings given in Table 6 shall be multiplied, and the lengths for 1-volt drop divided by the appropriate factor, as follows :—

Ambient air temperature	..	..	105° F.	110° F.	115° F.
Factor	..	..	0.86	0.68	0.45

The lower limit set to the size of conductor by the permissible voltage drop is dealt with in Regulation 304.

\* Including tough-rubber-protected cables and lead-covered cables, but excluding (for use with alternating current) such of the following cables as are prohibited under Regulation 308 :—

(a) Single-core armoured or ferrous-sheathed cables.

(b) Single-core cables above 0.1 sq. in. encased in brass, copper, etc.

†For one twin cable see Columns 7 to 9.



# **WIRING TABLES**

*Extract from I.E.E. Regulations for the Electrical Equipment of Buildings, September, 1934 (10th Edition).*

**TABLE 7.**

V.I.R. CABLES (see also Table 6). 7/.036" to 37/.093".

Current Rating (subject to voltage drop) for vulcanized-rubber-insulated cables\* run :—

- (1) Bunched, and enclosed in one conduit, troughing, or casing (Col. 3 or Col. 6, according to the type and number so run).
- (2) Bunched, and open (Col. 3 or Col. 6, according to the type and number so run).

Conductor.		Not more than Six Single-Core Cables, or Three Twin Cables, or One Three-Core or Four-Core Cable, or Two Concentric Cables.			Not more than Ten Single-Core Cables, or Five Twin Cables, or Two Three-Core or Four-Core Cables, or Three Concentric Cables.		
		Current Rating (subject to Voltage Drop).	Approximate Length in Circuit for 1-volt Drop with Current Rating in Col. 3.		Current Rating (subject to Voltage Drop).	Approximate Length in Circuit for 1-volt Drop with Current Rating in Col. 6.	
Nominal Cross-Sectional Area.	Number and Diam. of Wires.	D.C. or Single-phase or 3-phase A.C.	Lead plus Return, for D.C.	Lead plus Return, for Single-phase A.C. Lead only for balanced 3-phase A.C.	D.C. or Single-phase or 3-phase A.C.	Lead plus Return, for D.C.	Lead plus Return, for Single-phase A.C. Lead only for balanced 3-phase A.C.
1.	2.	3.	4.	5.	6.	7.	8.
Sq. ins.	No./Ins.	amps.	feet.	feet.	amps.	feet.	feet.
0.007	7/.036	17	47	47	14	55	55
0.01	7/.044	22	56	56	19	65	65
0.0145	7/.052	26	64	64	22	75	75
0.0225	7/.064	32	79	79	28	92	92
0.03	19/.044	37	87	87	32	102	102
0.04	19/.052	45	101	101	38	118	118
0.06	19/.064	58	119	119	50	138	138
0.075	19/.072	68	129	129	58	150	150
0.1	19/.083	83	140	137	71	163	160
0.12	37/.064	91	147	140	78	172	164
0.15	37/.072	106	160	147	91	187	170
0.2	37/.083	129	176	147	—	—	—
0.25	37/.093	150	189	144	—	—	—

NOTE.—Table 7 applies to cables employed in the wiring of buildings, but does not apply to every condition under which cables may be used. (Braided vulcanized-rubber-insulated cables run open are required under Regulation 403 to be spaced on insulators.)

Table 7 refers to situations where the ambient temperature does not exceed 100°F. (37.7°C.). Where the ambient air temperature is abnormally high the current ratings given in Table 7 shall be multiplied, and the lengths for 1-volt drop divided, by the appropriate factor as follows :—

Ambient air temperature	..	..	105°F.	110°F.	115°F.
Factor	..	..	0.86	0.68	0.45

The lower limit set to the size of conductor by the permissible voltage drop is dealt with in Regulation 304.

\*Including tough-rubber-protected cables and lead-covered cables, but excluding (for use with alternating current) such of the following cables as are prohibited under Regulation 308 :—

- (a) Single-core armoured or ferrous-sheathed cables.
- (b) Single-core cables above 0.1 sq. in. encased in brass, copper, etc.

## WIRING TABLES

*Extract from I.E.E. Regulations for the Electrical Equipment of Buildings, September, 1934 (10th Edition).*

**TABLE 8.**

**V.I.R. BRAIDED CABLES ON CLEATS. 19/.083" to 127/.103".**

Current Rating (subject to voltage drop) for single-core, unarmoured, vulcanized-rubber-insulated, braided and compounded cables\* (with or without tape) run open on cleats as defined on page 132.

Conductor.		Current Rating (subject to voltage drop) for Cables run under the conditions defined on page 132.			Approximate Length in Circuit for 1-volt Drop.		
Nominal Cross-Sectional Area.	Number and Diam. of Wires.	D.C.	Single-phase A.C.	Three-phase A.C.	Lead plus Return for D.C. with Current Rating in Col. 3.	Lead plus Return for Single-phase A.C. with Current Rating in Col. 4.	Lead only for balanced 3-phase A.C. with Current Rating in Col. 5.
1.	2.	3.	4.	5.	6.	7.	8.
Sq. ins.	No./ins.	amps.	amps.	amps.	feet.	feet.	feet.
0.1	19/.083	138	138	137	84	76	76
0.12	37/.064	154	154	153	87	77	77
0.15	37/.072	176	176	174	96	80	80
0.2	37/.083	210	210	208	106	81	81
0.25	37/.093	243	243	238	116	77	78
0.3	37/.103	275	275	272	126	74	75
0.4	61/.093	341	340	330	137	58	60
0.5	61/.103	393	390	378	145	54	56
0.6	91/.093	445	435	422	156	52	54
0.75	91/.103	520	490	470	164	49	51
0.85	127/.093	563	520	500	172	48	50
1.0	127/.103	630	560	537	189	48	50

NOTE.—Table 8 applies to cables employed in the wiring of buildings, but does not apply to every condition under which cables may be used.

Table 8 applies to two or three cables run spaced as shown on page 132. Where four or more cables are so spaced the current ratings are reduced to 90 per cent. of those set out in Col. 3 or Col. 4 above for direct-current or alternating-current (either single-phase or three-phase) loading respectively.

For two or three smaller cables (7/.036" to 19/.072" inclusive) so spaced the current ratings are those given in Col. 3 or Col. 4 of Table 6, and for four or more such smaller cables the current ratings are 90 per cent. of those given in Col. 3 or Col. 4 of Table 6, for direct-current or alternating-current (either single-phase or three-phase) loading respectively.

Table 8 refers to situations where the ambient air temperature does not exceed 100° F. (37.7° C.). Where the ambient air temperature is abnormally high the current ratings given in Table 8 shall be multiplied, and the lengths for 1-volt drop divided, by the appropriate factor as follows :—

Ambient air temperature	..	..	105° F.	110° F.	115° F.
Factor	..	..	0.86	0.68	0.45

The lower limit set to the size of conductor by the permissible voltage drop is dealt with in Regulation 304.

\*Including single-core unarmoured tough-rubber-protected cables; but excluding (for use with alternating current) such cables as are prohibited under Regulation 308.

# **WIRING TABLES**

*Extract from I.E.E. Regulations for the Electrical Equipment of Buildings,  
September, 1934 (10th Edition).*

**TABLE 9.**

**V.I.R. L.C. CABLES ON CLEATS. 19/.083" to 127/.103."**

Current Rating (subject to voltage drop) for single-core, unarmoured, vulcanized-rubber-insulated, lead-covered cables, run open on cleats as defined on page 132.

Conductor.		Current Rating (subject to Voltage Drop) for Cables run under the conditions defined on page 132.			Approximate Length in Circuit for 1-volt Drop.		
Nominal Cross-Sectional Area.	Number and Diam. of Wires.	D.C.	Single-phase A.C.	Three-phase A.C.	Lead plus Return for D.C. with Current Rating in Col. 3.	Lead plus Return for Single-phase A.C. with Current Rating in Col. 4.	Lead only for balanced three phase A.C. with Current Rating in Col. 5.
1.	2.	3.	4.	5.	6.	7.	8.
Sq. ins.	No. ins.	amps.	amps.	amps.	feet.	feet.	feet.
0.1	19/.083	138	137	137	84	75	75
0.12	37/.064	154	150	149	87	77	77
0.15	37/.072	176	171	169	96	80	81
0.2	37/.083	210	205	202	106	79	81
0.25	37/.093	243	239	234	116	76	78
0.3	37/.103	275	268	260	126	74	76
0.4	61/.093	341	321	309	137	60	62
0.5	61/.103	393	366	350	145	56	59
0.6	91/.093	445	400	383	156	55	58
0.75	91/.103	520	442	421	164	53	56
0.85	127/.093	563	464	439	172	53	56
1.0	127/.103	630	490	463	189	53	56

NOTE.—Table 9 applies to cables employed in the wiring of buildings, but does not apply to every condition under which cables may be used.

Table 9 applies to two or three cables run spaced as shown on page 132. Where four or more cables are so spaced, the current ratings are reduced to 90 per cent. of those set out in Col. 3 or Col. 4 above for direct-current or alternating-current (either single-phase or three-phase) loading respectively.

For two or three smaller cables (7/.036" to 19/.072" inclusive) so spaced the current ratings are those given in Col. 3 or Col. 4 of Table 6 and for four or more such smaller cables the current ratings are 90 per cent. of those given in Col. 3 or Col. 4 of Table 6, for direct-current or alternating-current (either single-phase or three-phase) loading respectively.

Table 9 refers to situations where the ambient air temperature does not exceed 100°F. (37.7°C.). Where the ambient air temperature is abnormally high the current ratings given in Table 9 shall be multiplied, and the lengths for 1-volt drop divided, by the appropriate factor as follows:—

Ambient air temperature	..	..	105°F.	110°F.	115°F.
Factor	..	..	0.86	0.68	0.45

The lower limit set to the size of conductor by the permissible voltage drop is dealt with in Regulation 304.



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

## "C.M.A." CABLES

### SINGLE CORE

**BRAIDED**

**600 MEGOHM GRADE—CLASS No. 101.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, braided and compounded.

No. and diameter of conductors.	Nominal area.	Thickness of Insulation.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./Ins.	Sq. Ins.	Ins.	Ins.	Lb.	Megohms.		£ s.
1/.036	.001	.034	.141	48	2000	W <b>1001</b>	<b>15 10</b>
1/.044	.0015	.034	.149	56	2000	W <b>1003</b>	<b>17 0</b>
3/.029	.002	.036	.172	72	1250	W <b>1005</b>	<b>21 10</b>
1/.064	.003	.036	.175	84	2000	W <b>1007</b>	<b>23 0</b>
3/.036	.003	.038	.194	93	1250	W <b>1009</b>	<b>26 0</b>
7/.029	.0045	.039	.205	114	1250	W <b>1011</b>	<b>32 0</b>
7/.036	.007	.041	.235	161	900	W <b>1013</b>	<b>42 0</b>
7/.044	.01	.043	.266	215	900	W <b>1015</b>	<b>53 0</b>
7/.052	.0145	.046	.297	283	900	W <b>1017</b>	<b>68 0</b>
7/.064	.0225	.049	.342	399	900	W <b>1019</b>	<b>90 0</b>
19/.044	.03	.052	.377	502	750	W <b>1021</b>	<b>110 0</b>
19/.052	.04	.056	.428	684	750	W <b>1023</b>	<b>147 0</b>
19/.064	.06	.062	.503	988	750	W <b>1025</b>	<b>201 0</b>
19/.072	.075	.066	.575	1228	600	W <b>1027</b>	<b>247 0</b>
19/.083	.1	.072	.645	1596	600	W <b>1029</b>	<b>312 0</b>
37/.064	.12	.075	.69	1820	600	W <b>1031</b>	<b>365 0</b>
37/.072	.15	.08	.756	2258	600	W <b>1033</b>	<b>444 0</b>
37/.083	.2	.088	.864	2931	600	W <b>1035</b>	<b>565 0</b>
37/.093	.25	.095	.957	3709	600	W <b>1037</b>	<b>685 0</b>
37/.103	.3	.102	1.046	4494	600	W <b>1039</b>	<b>825 0</b>
61/.093	.4	.114	1.196	5985	600	W <b>1041</b>	<b>1095 0</b>
61/.103	.5	.121	1.3	7249	600	W <b>1043</b>	<b>1320 0</b>
91/.093	.6	.125	1.408	8671	600	W <b>1045</b>	<b>1585 0</b>
91/.103	.75	.131	1.53	10503	600	W <b>1047</b>	<b>1930 0</b>
127/.093	.85	.135	1.614	11882	600	W <b>1049</b>	<b>2170 0</b>
127/.103	1	.141	1.756	14407	600	W <b>1051</b>	<b>2625 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

# “C.M.A.” CABLES

## SINGLE CORE

### BRAIDED


**C.M.A.**
**2500 MEGOHM GRADE—CLASS No. 201.**

 Regd. Trade  
Mark (No.  
422219/20/21).

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, braided and compounded.

No. and diameter of conductors.	Nominal area.	Thickness of Insulation.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./Ins.	Sq. Ins.	Ins.	Ins.	Lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.034	.141	48	5000	W <b>1060</b>	<b>16 10</b>
<b>1/.044</b>	<b>.0015</b>	.034	.149	56	5000	W <b>1062</b>	<b>18 10</b>
<b>3/.029</b>	<b>.002</b>	.036	.172	72	4500	W <b>1064</b>	<b>23 0</b>
<b>1/.064</b>	<b>.003</b>	.036	.175	84	5000	W <b>1066</b>	<b>24 10</b>
<b>3/.036</b>	<b>.003</b>	.038	.194	93	4500	W <b>1068</b>	<b>28 0</b>
<b>7/.029</b>	<b>.0045</b>	.039	.205	114	4500	W <b>1070</b>	<b>34 10</b>
<b>7/.036</b>	<b>.007</b>	.041	.235	161	4000	W <b>1072</b>	<b>45 0</b>
<b>7/.044</b>	<b>.01</b>	.043	.266	215	4000	W <b>1074</b>	<b>57 0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.297	283	4000	W <b>1076</b>	<b>73 0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.342	399	3500	W <b>1078</b>	<b>98 0</b>
<b>19/.044</b>	<b>.03</b>	.052	.377	502	3500	W <b>1080</b>	<b>120 0</b>
<b>19/.052</b>	<b>.04</b>	.056	.428	684	3000	W <b>1082</b>	<b>159 0</b>
<b>19/.064</b>	<b>.06</b>	.062	.503	988	3000	W <b>1084</b>	<b>217 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.575	1228	3000	W <b>1086</b>	<b>266 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.645	1596	3000	W <b>1088</b>	<b>336 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.69	1820	3000	W <b>1090</b>	<b>392 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.756	2258	3000	W <b>1092</b>	<b>476 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.864	2931	2500	W <b>1094</b>	<b>605 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.957	3709	2500	W <b>1096</b>	<b>735 0</b>
<b>37/.103</b>	<b>.3</b>	.102	1.046	4494	2500	W <b>1098</b>	<b>885 0</b>
<b>61/.093</b>	<b>.4</b>	.114	1.196	5985	2500	W <b>1100</b>	<b>1180 0</b>
<b>61/.103</b>	<b>.5</b>	.121	1.3	7249	2500	W <b>1102</b>	<b>1415 0</b>
<b>91/.093</b>	<b>.6</b>	.125	1.408	8671	2500	W <b>1104</b>	<b>1705 0</b>
<b>91/.103</b>	<b>.75</b>	.131	1.53	10503	2500	W <b>1106</b>	<b>2075 0</b>
<b>127/.093</b>	<b>.85</b>	.135	1.614	11882	2500	W <b>1108</b>	<b>2330 0</b>
<b>127/.103</b>	<b>1</b>	.141	1.756	14407	2500	W <b>1110</b>	<b>2815 0</b>

 Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10%** extra.

For current carrying capacities see pages 17 to 21.



# “C.M.A.” CABLES

## SINGLE CORE

### LEAD COVERED

**C.M.A.**

Regd. Trade  
Mark (No.  
42219/20/21).

**600 MEGOHM GRADE—CLASS No. 103.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped and covered with a solid tube of lead.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of Lead.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.034	.04	.2	337	2000	W <b>1121</b>	<b>22 10</b>
<b>1/.044</b>	<b>.0015</b>	.034	.04	.208	358	2000	W <b>1123</b>	<b>24 0</b>
<b>3/.029</b>	<b>.002</b>	.036	.04	.23	408	1250	W <b>1125</b>	<b>29 10</b>
<b>1/.064</b>	<b>.003</b>	.036	.04	.232	421	2000	W <b>1127</b>	<b>30 10</b>
<b>3/.036</b>	<b>.003</b>	.038	.04	.25	462	1250	W <b>1129</b>	<b>34 10</b>
<b>7/.029</b>	<b>.0045</b>	.039	.04	.261	503	1250	W <b>1131</b>	<b>40 10</b>
<b>7/.036</b>	<b>.007</b>	.041	.05	.314	727	900	W <b>1133</b>	<b>54 0</b>
<b>7/.044</b>	<b>.01</b>	.043	.05	.342	843	900	W <b>1135</b>	<b>67 0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.06	.392	1150	900	W <b>1137</b>	<b>88 0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.06	.434	1378	900	W <b>1139</b>	<b>112 0</b>
<b>19/.044</b>	<b>.03</b>	.052	.06	.468	1548	750	W <b>1141</b>	<b>134 0</b>
<b>19/.052</b>	<b>.04</b>	.056	.06	.516	1850	750	W <b>1143</b>	<b>174 0</b>
<b>19/.064</b>	<b>.06</b>	.062	.07	.608	2613	750	W <b>1145</b>	<b>241 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.07	.656	2994	600	W <b>1147</b>	<b>288 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.07	.723	3560	600	W <b>1149</b>	<b>357 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.07	.762	3900	600	W <b>1151</b>	<b>412 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.08	.848	4921	600	W <b>1153</b>	<b>506 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.08	.949	5929	600	W <b>1155</b>	<b>635 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.09	1.053	7394	600	W <b>1157</b>	<b>780 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.09	1.137	8508	600	W <b>1159</b>	<b>920 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.1	1.297	11196	600	W <b>1161</b>	<b>1225 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.11	1.421	13566	600	W <b>1163</b>	<b>1480 0</b>
<b>91/.093</b>	<b>.6</b>	.125	.11	1.525	15490	600	W <b>1165</b>	<b>1765 0</b>
<b>91/.103</b>	<b>.75</b>	.131	.12	1.667	18678	600	W <b>1167</b>	<b>2140 0</b>
<b>127/.093</b>	<b>.85</b>	.135	.12	1.751	20502	600	W <b>1169</b>	<b>2390 0</b>
<b>127/.103</b>	<b>1</b>	.141	.12	1.893	23776	600	W <b>1171</b>	<b>2865 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10%** extra.

*For current carrying capacities see pages 17 to 21.*



**"C.M.A." CABLES**

**SINGLE CORE**

**LEAD COVERED**



**C.M.A.**

**2500 MEGOHM GRADE—CLASS No. 203.**

Regd. Trade  
Mark (No.  
422219/20/21).

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped and covered with a solid tube of lead.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insula-tion.	Thick-ness of Lead.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.034	.04	.2	337	5000	W <b>1180</b>	<b>23 10</b>
<b>1/.044</b>	<b>.0015</b>	.034	.04	.208	358	5000	W <b>1182</b>	<b>25 10</b>
<b>3/.029</b>	<b>.002</b>	.036	.04	.23	408	4500	W <b>1184</b>	<b>31 0</b>
<b>1/.064</b>	<b>.003</b>	.036	.04	.232	421	5000	W <b>1186</b>	<b>32 0</b>
<b>3/.036</b>	<b>.003</b>	.038	.04	.25	462	4500	W <b>1188</b>	<b>36 10</b>
<b>7/.029</b>	<b>.0045</b>	.039	.04	.261	503	4500	W <b>1190</b>	<b>43 0</b>
<b>7/.036</b>	<b>.007</b>	.041	.05	.314	727	4000	W <b>1192</b>	<b>57 0</b>
<b>7/.044</b>	<b>.01</b>	.043	.05	.342	843	4000	W <b>1194</b>	<b>71 0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.06	.392	1150	4000	W <b>1196</b>	<b>93 0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.06	.434	1378	3500	W <b>1198</b>	<b>120 0</b>
<b>19/.044</b>	<b>.03</b>	.052	.06	.468	1548	3500	W <b>1200</b>	<b>144 0</b>
<b>19/.052</b>	<b>.04</b>	.056	.06	.516	1850	3000	W <b>1202</b>	<b>186 0</b>
<b>19/.064</b>	<b>.06</b>	.062	.07	.608	2613	3000	W <b>1204</b>	<b>257 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.07	.656	2994	3000	W <b>1206</b>	<b>307 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.07	.723	3560	3000	W <b>1208</b>	<b>381 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.07	.762	3900	3000	W <b>1210</b>	<b>439 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.08	.848	4921	3000	W <b>1212</b>	<b>538 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.08	.949	5929	2500	W <b>1214</b>	<b>675 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.09	1.053	7394	2500	W <b>1216</b>	<b>830 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.09	1.137	8508	2500	W <b>1218</b>	<b>980 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.1	1.297	11196	2500	W <b>1220</b>	<b>1310 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.11	1.421	13566	2500	W <b>1222</b>	<b>1575 0</b>
<b>91/.093</b>	<b>.6</b>	.125	.11	1.525	15490	2500	W <b>1224</b>	<b>1885 0</b>
<b>91/.103</b>	<b>.75</b>	.131	.12	1.667	18678	2500	W <b>1226</b>	<b>2285 0</b>
<b>127/.093</b>	<b>.85</b>	.135	.12	1.751	20502	2500	W <b>1228</b>	<b>2550 0</b>
<b>127/.103</b>	<b>1</b>	.141	.12	1.893	23776	2500	W <b>1230</b>	<b>3055 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

## "C.M.A." CABLES

### SINGLE CORE (NO LEAD)

**JUTE BEDDED AND SINGLE WIRE ARMoured**

**(ARMOURING LEFT BARE)**

**600 MEGOHM GRADE—CLASS No. 104.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, jute bedded and compounded, and armoured with a layer of galvanized steel wires.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insula-tion.	Diam. of Armour-ing Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.034	.064	.328	442	2000	W <b>1241</b>	<b>37 10</b>
<b>1/.044</b>	<b>.0015</b>	.034	.064	.336	449	2000	W <b>1243</b>	<b>39 10</b>
<b>3/.029</b>	<b>.002</b>	.036	.064	.358	497	1250	W <b>1245</b>	<b>46 0</b>
<b>1/.064</b>	<b>.003</b>	.036	.064	.36	510	2000	W <b>1247</b>	<b>47 0</b>
<b>3/.036</b>	<b>.003</b>	.038	.064	.378	550	1250	W <b>1249</b>	<b>51 10</b>
<b>7/.029</b>	<b>.0045</b>	.039	.064	.389	572	1250	W <b>1251</b>	<b>58 0</b>
<b>7/.036</b>	<b>.007</b>	.041	.064	.422	676	900	W <b>1253</b>	<b>68 0</b>
<b>7/.044</b>	<b>.01</b>	.043	.064	.45	775	900	W <b>1255</b>	<b>82 0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.064	.48	880	900	W <b>1257</b>	<b>98 0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.064	.522	1034	900	W <b>1259</b>	<b>123 0</b>
<b>19/.044</b>	<b>.03</b>	.052	.064	.556	1189	750	W <b>1261</b>	<b>146 0</b>
<b>19/.052</b>	<b>.04</b>	.056	.064	.604	1467	750	W <b>1263</b>	<b>186 0</b>
<b>19/.064</b>	<b>.06</b>	.062	.072	.732	2082	750	W <b>1265</b>	<b>257 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.072	.78	2409	600	W <b>1267</b>	<b>304 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.072	.847	2908	600	W <b>1269</b>	<b>375 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.072	.886	3175	600	W <b>1271</b>	<b>429 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.072	.952	3751	600	W <b>1273</b>	<b>513 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.072	1.053	4570	600	W <b>1275</b>	<b>640 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.08	1.233	5926	600	W <b>1277</b>	<b>795 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.08	1.317	6820	600	W <b>1279</b>	<b>935 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.104	1.505	9318	600	W <b>1281</b>	<b>1255 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.104	1.609	11016	600	W <b>1283</b>	<b>1495 0</b>
<b>91/.093</b>	<b>.6</b>	.125	.128	1.761	13550	600	W <b>1285</b>	<b>1800 0</b>
<b>91/.103</b>	<b>.75</b>	.131	.128	1.883	15735	600	W <b>1287</b>	<b>2170 0</b>
<b>127/.093</b>	<b>.85</b>	.135	.16	1.967	17392	600	W <b>1289</b>	<b>2440 0</b>
<b>127/.103</b>	<b>1</b>	.141	.16	2.173	21846	600	W <b>1291</b>	<b>2945 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

**"C.M.A." CABLES**

**SINGLE CORE (NO LEAD)**

**JUTE BEDDED AND SINGLE WIRE ARMoured**

**(ARMOURING LEFT BARE)**

**2500 MEGOHM GRADE—CLASS No. 204.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, jute bedded and compounded, and armoured with a layer of galvanized steel wires.



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

No. and diameter of conductors.	Nominal area.	Thick-ness of Insula-tion.	Diam. of Armour-ing. Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
1/.036	.001	.034	.064	.328	442	5000	W <b>1300</b>	38 10
1/.044	.0015	.034	.064	.336	449	5000	W <b>1302</b>	41 0
3/.029	.002	.036	.064	.358	497	4500	W <b>1304</b>	47 10
1/.064	.003	.036	.064	.36	510	5000	W <b>1306</b>	48 10
3/.036	.003	.038	.064	.378	550	4500	W <b>1308</b>	53 10
7/.029	.0045	.039	.064	.389	572	4500	W <b>1310</b>	60 10
7/.036	.007	.041	.064	.422	676	4000	W <b>1312</b>	71 0
7/.044	.01	.043	.064	.45	775	4000	W <b>1314</b>	86 0
7/.052	.0145	.046	.064	.48	880	4000	W <b>1316</b>	103 0
7/.064	.0225	.049	.064	.522	1034	3500	W <b>1318</b>	131 0
19/.044	.03	.052	.064	.556	1189	3500	W <b>1320</b>	155 0
19/.052	.04	.056	.064	.604	1467	3000	W <b>1322</b>	198 0
19/.064	.06	.062	.072	.732	2082	3000	W <b>1324</b>	273 0
19/.072	.075	.066	.072	.78	2409	3000	W <b>1326</b>	323 0
19/.083	.1	.072	.072	.847	2908	3000	W <b>1328</b>	399 0
37/.064	.12	.075	.072	.886	3175	3000	W <b>1330</b>	456 0
37/.072	.15	.08	.072	.952	3751	3000	W <b>1332</b>	545 0
37/.083	.2	.088	.072	1.053	4570	2500	W <b>1334</b>	680 0
37/.093	.25	.095	.08	1.233	5926	2500	W <b>1336</b>	845 0
37/.103	.3	.102	.08	1.317	6820	2500	W <b>1338</b>	995 0
61/.093	.4	.114	.104	1.505	9318	2500	W <b>1340</b>	1340 0
61/.103	.5	.121	.104	1.609	11016	2500	W <b>1342</b>	1590 0
91/.093	.6	.125	.128	1.761	13550	2500	W <b>1344</b>	1920 0
91/.103	.75	.131	.128	1.883	15735	2500	W <b>1346</b>	2315 0
127/.093	.85	.135	.16	1.967	17392	2500	W <b>1348</b>	2600 0
127/.103	1	.141	.16	2.173	21846	2500	W <b>1350</b>	3135 0

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



# “C.M.A.” CABLES

## SINGLE CORE (NO LEAD)

**JUTE BEDDED, SINGLE WIRE ARMoured,  
AND SERVED OVERALL**

**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**600 MEGOHM GRADE—CLASS No. 105.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, jute bedded and compounded, armoured with a layer of galvanized steel wires, and jute served and further compounded overall.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insula-tion.	Diam. of Armour-ing Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.034	.064	.448	557	2000	W <b>1361</b>	<b>53 10</b>
<b>1/.044</b>	<b>.0015</b>	.034	.064	.456	567	2000	W <b>1363</b>	<b>56 0</b>
<b>3/.029</b>	<b>.002</b>	.036	.064	.478	625	1250	W <b>1365</b>	<b>63 10</b>
<b>1/.064</b>	<b>.003</b>	.036	.064	.48	637	2000	W <b>1367</b>	<b>64 10</b>
<b>3/.036</b>	<b>.003</b>	.038	.064	.498	681	1250	W <b>1369</b>	<b>69 10</b>
<b>7/.029</b>	<b>.0045</b>	.039	.064	.509	703	1250	W <b>1371</b>	<b>76 10</b>
<b>7/.036</b>	<b>.007</b>	.041	.064	.542	818	900	W <b>1373</b>	<b>88 0</b>
<b>7/.044</b>	<b>.01</b>	.043	.064	.57	926	900	W <b>1375</b>	<b>102 0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.064	.6	1038	900	W <b>1377</b>	<b>120 0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.064	.642	1327	900	W <b>1379</b>	<b>146 0</b>
<b>19/.044</b>	<b>.03</b>	.052	.064	.676	1499	750	W <b>1381</b>	<b>170 0</b>
<b>19/.052</b>	<b>.04</b>	.056	.064	.724	1805	750	W <b>1383</b>	<b>213 0</b>
<b>19/.064</b>	<b>.06</b>	.062	.072	.852	2477	750	W <b>1385</b>	<b>288 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.072	.9	2826	600	W <b>1387</b>	<b>338 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.072	.967	3357	600	W <b>1389</b>	<b>411 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.072	1.006	3641	600	W <b>1391</b>	<b>466 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.072	1.072	4252	600	W <b>1393</b>	<b>553 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.072	1.173	5116	600	W <b>1395</b>	<b>720 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.08	1.433	6560	600	W <b>1397</b>	<b>860 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.08	1.517	7496	600	W <b>1399</b>	<b>1005 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.104	1.705	10083	600	W <b>1401</b>	<b>1335 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.104	1.809	11832	600	W <b>1403</b>	<b>1580 0</b>
<b>91/.093</b>	<b>.6</b>	.125	.128	1.961	14439	600	W <b>1405</b>	<b>1890 0</b>
<b>91/.103</b>	<b>.75</b>	.131	.128	2.083	15784	600	W <b>1407</b>	<b>2265 0</b>
<b>127/.093</b>	<b>.85</b>	.135	.16	2.167	19667	600	W <b>1409</b>	<b>2540 0</b>
<b>127/.103</b>	<b>1</b>	.141	.16	2.373	22921	600	W <b>1411</b>	<b>3055 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, 10% extra.

*For current carrying capacities see pages 17 to 21.*

**“C.M.A.” CABLES**  
**SINGLE CORE (NO LEAD)**

**JUTE BEDDED, SINGLE WIRE ARMoured,  
AND SERVED OVERALL**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**2500 MEGOHM GRADE—CLASS No. 205.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, jute bedded and compounded, armoured with a layer of galvanized steel wires, and jute served and further compounded overall.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Diam. of Armour-ing. Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./Ins.	Sq. Ins.	Ins.	Ins.	Ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.034	.064	.448	557	5000	W <b>1420</b>	<b>54 10</b>
<b>1/.044</b>	<b>.0015</b>	.034	.064	.456	567	5000	W <b>1422</b>	<b>57 10</b>
<b>3/.029</b>	<b>.002</b>	.036	.064	.478	625	4500	W <b>1424</b>	<b>65 0</b>
<b>1/.064</b>	<b>.003</b>	.036	.064	.48	637	5000	W <b>1426</b>	<b>66 0</b>
<b>3/.036</b>	<b>.003</b>	.038	.064	.498	681	4500	W <b>1428</b>	<b>71 10</b>
<b>7/.029</b>	<b>.0045</b>	.039	.064	.509	703	4500	W <b>1430</b>	<b>79 0</b>
<b>7/.036</b>	<b>.007</b>	.041	.064	.542	818	4000	W <b>1432</b>	<b>91 0</b>
<b>7/.044</b>	<b>.01</b>	.043	.064	.57	926	4000	W <b>1434</b>	<b>106 0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.064	.6	1038	4000	W <b>1436</b>	<b>125 0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.064	.642	1327	3500	W <b>1438</b>	<b>154 0</b>
<b>19/.044</b>	<b>.03</b>	.052	.064	.676	1499	3500	W <b>1440</b>	<b>179 0</b>
<b>19/.052</b>	<b>.04</b>	.056	.064	.724	1805	3000	W <b>1442</b>	<b>225 0</b>
<b>19/.064</b>	<b>.06</b>	.062	.072	.852	2477	3000	W <b>1444</b>	<b>304 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.072	.9	2826	3000	W <b>1446</b>	<b>357 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.072	.967	3357	3000	W <b>1448</b>	<b>435 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.072	1.006	3641	3000	W <b>1450</b>	<b>493 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.072	1.072	4252	3000	W <b>1452</b>	<b>585 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.072	1.173	5116	2500	W <b>1454</b>	<b>760 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.08	1.433	6560	2500	W <b>1456</b>	<b>910 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.08	1.517	7496	2500	W <b>1458</b>	<b>1065 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.104	1.705	10083	2500	W <b>1460</b>	<b>1420 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.104	1.809	11832	2500	W <b>1462</b>	<b>1675 0</b>
<b>91/.093</b>	<b>.6</b>	.125	.128	1.961	14439	2500	W <b>1464</b>	<b>2010 0</b>
<b>91/.103</b>	<b>.75</b>	.131	.128	2.083	15784	2500	W <b>1466</b>	<b>2410 0</b>
<b>127/.093</b>	<b>.85</b>	.135	.16	2.167	19667	2500	W <b>1468</b>	<b>2700 0</b>
<b>127/.103</b>	<b>1</b>	.141	.16	2.373	22921	2500	W <b>1470</b>	<b>3245 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



## “C.M.A.” CABLES

### SINGLE CORE

LEAD COVERED AND SINGLE WIRE ARMoured

C.M.A.

(ARMOURING LEFT BARE)

Regd. Trade  
Mark (No.  
422219/20/21).

**600 MEGOHM GRADE—CLASS No. 106.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, the whole covered with a solid tube of lead, jute bedded and compounded, and armoured with a layer of galvanized steel wires.

No. and diameter of conductors.	Nominal area	Thick-ness of Insulation.	Thick-ness of Lead.	Diameter of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	ins.	ins.	ins.	ins.	lb.	Megohms.		£	s.
<b>1/.036</b>	<b>.001</b>	.034	.04	.064	.408	880	2000	W <b>1481</b>	<b>58</b>	<b>0</b>
<b>1/.044</b>	<b>.0015</b>	.034	.04	.064	.416	904	2000	W <b>1483</b>	<b>60</b>	<b>10</b>
<b>3/.029</b>	<b>.002</b>	.036	.04	.064	.438	990	1250	W <b>1485</b>	<b>68</b>	<b>10</b>
<b>1/.064</b>	<b>.003</b>	.036	.04	.064	.44	1005	2000	W <b>1487</b>	<b>69</b>	<b>10</b>
<b>3/.036</b>	<b>.003</b>	.038	.04	.064	.458	1083	1250	W <b>1489</b>	<b>75</b>	<b>10</b>
<b>7/.029</b>	<b>.0045</b>	.039	.04	.064	.469	1158	1250	W <b>1491</b>	<b>82</b>	<b>10</b>
<b>7/.036</b>	<b>.007</b>	.041	.05	.064	.522	1458	900	W <b>1493</b>	<b>101</b>	<b>0</b>
<b>7/.044</b>	<b>.01</b>	.043	.05	.064	.55	1604	900	W <b>1495</b>	<b>118</b>	<b>0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.06	.064	.6	1997	900	W <b>1497</b>	<b>143</b>	<b>0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.06	.072	.698	2576	900	W <b>1499</b>	<b>183</b>	<b>0</b>
<b>19/.044</b>	<b>.03</b>	.052	.06	.072	.732	2804	750	W <b>1501</b>	<b>209</b>	<b>0</b>
<b>19/.052</b>	<b>.04</b>	.056	.06	.072	.78	3212	750	W <b>1503</b>	<b>255</b>	<b>0</b>
<b>19/.064</b>	<b>.06</b>	.062	.07	.072	.872	4180	750	W <b>1505</b>	<b>332</b>	<b>0</b>
<b>19/.072</b>	<b>.075</b>	.066	.07	.072	.92	4631	600	W <b>1507</b>	<b>385</b>	<b>0</b>
<b>19/.083</b>	<b>.1</b>	.072	.07	.072	.987	5342	600	W <b>1509</b>	<b>463</b>	<b>0</b>
<b>37/.064</b>	<b>.12</b>	.075	.07	.072	1.026	5787	600	W <b>1511</b>	<b>524</b>	<b>0</b>
<b>37/.072</b>	<b>.15</b>	.08	.08	.08	1.208	7351	600	W <b>1513</b>	<b>651</b>	<b>0</b>
<b>37/.083</b>	<b>.2</b>	.088	.08	.08	1.309	8552	600	W <b>1515</b>	<b>790</b>	<b>0</b>
<b>37/.093</b>	<b>.25</b>	.095	.09	.104	1.461	10956	600	W <b>1517</b>	<b>985</b>	<b>0</b>
<b>37/.103</b>	<b>.3</b>	.102	.09	.104	1.545	12383	600	W <b>1519</b>	<b>1145</b>	<b>0</b>
<b>61/.093</b>	<b>.4</b>	.114	.1	.104	1.705	15552	600	W <b>1521</b>	<b>1485</b>	<b>0</b>
<b>61/.103</b>	<b>.5</b>	.121	.11	.128	1.877	19242	600	W <b>1523</b>	<b>1785</b>	<b>0</b>
<b>91/.093</b>	<b>.6</b>	.125	.11	.128	1.981	21610	600	W <b>1525</b>	<b>2090</b>	<b>0</b>
<b>91/.103</b>	<b>.75</b>	.131	.12	.16	2.187	26850	600	W <b>1527</b>	<b>2550</b>	<b>0</b>
<b>127/.093</b>	<b>.85</b>	.135	.12	.16	2.271	28899	600	W <b>1529</b>	<b>2820</b>	<b>0</b>
<b>127/.103</b>	<b>1</b>	.141	.12	.16	2.413	32906	600	W <b>1531</b>	<b>3320</b>	<b>0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

# **"C.M.A." CABLES**

## **SINGLE CORE**

**LEAD COVERED AND SINGLE WIRE ARMoured**

**(ARMOURING LEFT BARE)**



**C.M.A.**

Regd. Trade  
Mark (No  
422219/20/21).

**2500 MEGOHM GRADE—CLASS No. 206.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, the whole covered with a solid tube of lead, jute bedded and compounded, and armoured with a layer of galvanized steel wires.

No. and diameter of conductors.	Nominal area	Thick-ness of Insula-tion.	Thick-ness of Lead.	Diameter of Armoring Wire.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.	
No./Ins.	Sq. ins.	ins.	ins.	ins.	ins.	lb.	Megohms.		£	s.
<b>1/.036</b>	<b>.001</b>	.034	.04	.064	.408	880	5000	W <b>1540</b>	<b>59</b>	<b>0</b>
<b>1/.044</b>	<b>.0015</b>	.034	.04	.064	.416	904	5000	W <b>1542</b>	<b>62</b>	<b>0</b>
<b>3/.029</b>	<b>.002</b>	.036	.04	.064	.438	990	4500	W <b>1544</b>	<b>70</b>	<b>0</b>
<b>1/.064</b>	<b>.003</b>	.036	.04	.064	.44	1005	5000	W <b>1546</b>	<b>71</b>	<b>0</b>
<b>3/.036</b>	<b>.003</b>	.038	.04	.064	.458	1083	4500	W <b>1548</b>	<b>77</b>	<b>10</b>
<b>7/.029</b>	<b>.0045</b>	.039	.04	.064	.469	1158	4500	W <b>1550</b>	<b>85</b>	<b>0</b>
<b>7/.036</b>	<b>.007</b>	.041	.05	.064	.522	1458	4000	W <b>1552</b>	<b>104</b>	<b>0</b>
<b>7/.044</b>	<b>.01</b>	.043	.05	.064	.55	1604	4000	W <b>1554</b>	<b>122</b>	<b>0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.06	.064	.6	1997	4000	W <b>1556</b>	<b>148</b>	<b>0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.06	.072	.698	2576	3500	W <b>1558</b>	<b>191</b>	<b>0</b>
<b>19/.044</b>	<b>.03</b>	.052	.06	.072	.732	2804	3500	W <b>1560</b>	<b>218</b>	<b>0</b>
<b>19/.052</b>	<b>.04</b>	.056	.06	.072	.78	3212	3000	W <b>1562</b>	<b>267</b>	<b>0</b>
<b>19/.064</b>	<b>.06</b>	.062	.07	.072	.872	4180	3000	W <b>1564</b>	<b>348</b>	<b>0</b>
<b>19/.072</b>	<b>.075</b>	.066	.07	.072	.92	4631	3000	W <b>1566</b>	<b>404</b>	<b>0</b>
<b>19/.083</b>	<b>.1</b>	.072	.07	.072	.987	5342	3000	W <b>1568</b>	<b>487</b>	<b>0</b>
<b>37/.064</b>	<b>.12</b>	.075	.07	.072	1.026	5787	3000	W <b>1570</b>	<b>551</b>	<b>0</b>
<b>37/.072</b>	<b>.15</b>	.08	.08	.08	1.208	7351	3000	W <b>1572</b>	<b>683</b>	<b>0</b>
<b>37/.083</b>	<b>.2</b>	.088	.08	.08	1.309	8552	2500	W <b>1574</b>	<b>830</b>	<b>0</b>
<b>37/.093</b>	<b>.25</b>	.095	.09	.104	1.461	10956	2500	W <b>1576</b>	<b>1035</b>	<b>0</b>
<b>37/.103</b>	<b>.3</b>	.102	.09	.104	1.545	12383	2500	W <b>1578</b>	<b>1205</b>	<b>0</b>
<b>61/.093</b>	<b>.4</b>	.114	.1	.104	1.705	15552	2500	W <b>1580</b>	<b>1570</b>	<b>0</b>
<b>61/.103</b>	<b>.5</b>	.121	.11	.128	1.877	19242	2500	W <b>1582</b>	<b>1880</b>	<b>0</b>
<b>91/.093</b>	<b>.6</b>	.125	.11	.128	1.981	21610	2500	W <b>1584</b>	<b>2210</b>	<b>0</b>
<b>91/.103</b>	<b>.75</b>	.131	.12	.16	2.187	26850	2500	W <b>1586</b>	<b>2695</b>	<b>0</b>
<b>127/.093</b>	<b>.85</b>	.135	.12	.16	2.271	28899	2500	W <b>1588</b>	<b>2980</b>	<b>0</b>
<b>127/.103</b>	<b>1</b>	.141	.12	.16	2.413	32906	2500	W <b>1590</b>	<b>3510</b>	<b>0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



## "C.M.A." CABLES

### SINGLE CORE

LEAD COVERED, SINGLE WIRE ARMoured.

AND SERVED OVERALL

**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**600 MEGOHM GRADE—CLASS No. 107.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, the whole covered with a solid tube of lead, jute bedded and compounded, and armoured with a layer of galvanized steel wires, jute served, and further compounded overall.

No. and diameter of conductors.	Nominal area	Thick-ness of Insulation.	Thick-ness of Lead.	Diameter of Armoured Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.034	.04	.064	.528	1017	2000	W <b>1601</b>	<b>76 10</b>
<b>1/.044</b>	<b>.0015</b>	.034	.04	.064	.536	1044	2000	W <b>1603</b>	<b>79 10</b>
<b>3/.029</b>	<b>.002</b>	.036	.04	.064	.558	1139	1250	W <b>1605</b>	<b>88 0</b>
<b>1/.064</b>	<b>.003</b>	.036	.04	.064	.56	1154	2000	W <b>1607</b>	<b>91 10</b>
<b>3/.036</b>	<b>.003</b>	.038	.04	.064	.578	1236	1250	W <b>1609</b>	<b>95 10</b>
<b>7/.029</b>	<b>.0045</b>	.039	.04	.064	.589	1315	1250	W <b>1611</b>	<b>103 10</b>
<b>7/.036</b>	<b>.007</b>	.041	.05	.064	.642	1753	900	W <b>1613</b>	<b>123 0</b>
<b>7/.044</b>	<b>.01</b>	.043	.05	.064	.67	1911	900	W <b>1615</b>	<b>142 0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.06	.064	.72	2334	900	W <b>1617</b>	<b>169 0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.06	.072	.818	2956	900	W <b>1619</b>	<b>213 0</b>
<b>19/.044</b>	<b>.03</b>	.052	.06	.072	.852	3198	750	W <b>1621</b>	<b>240 0</b>
<b>19/.052</b>	<b>.04</b>	.056	.06	.072	.9	3629	750	W <b>1623</b>	<b>287 0</b>
<b>19/.064</b>	<b>.06</b>	.062	.07	.072	.992	4642	750	W <b>1625</b>	<b>368 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.07	.072	1.04	5118	600	W <b>1627</b>	<b>423 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.07	.072	1.107	5855	600	W <b>1629</b>	<b>503 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.07	.072	1.146	6320	600	W <b>1631</b>	<b>568 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.08	.08	1.408	7972	600	W <b>1633</b>	<b>712 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.08	.08	1.509	9220	600	W <b>1635</b>	<b>855 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.09	.104	1.661	11692	600	W <b>1637</b>	<b>1060 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.09	.104	1.745	13170	600	W <b>1639</b>	<b>1220 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.1	.104	1.905	16414	600	W <b>1641</b>	<b>1565 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.11	.128	2.077	20187	600	W <b>1643</b>	<b>1880 0</b>
<b>91/.093</b>	<b>.6</b>	.125	.11	.128	2.181	22596	600	W <b>1645</b>	<b>2185 0</b>
<b>91/.103</b>	<b>.75</b>	.131	.12	.16	2.387	27937	600	W <b>1647</b>	<b>2655 0</b>
<b>127/.093</b>	<b>.85</b>	.135	.12	.16	2.471	31074	600	W <b>1649</b>	<b>2930 0</b>
<b>127/.103</b>	<b>1</b>	.141	.12	.16	2.613	34101	600	W <b>1651</b>	<b>3435 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



**"C.M.A." CABLES**

**SINGLE CORE**

**LEAD COVERED, SINGLE WIRE ARMoured, AND  
SERVED OVERALL**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**2500 MEGOHM GRADE—CLASS No. 207.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, the whole covered with a solid tube of lead, jute bedded and compounded, and armoured with a layer of galvanized steel wires, jute served, and further compounded overall.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of Lead.	Diameter of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 80° F.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	ins.	ins.	ins.	ins.	lb.	Megohms.		£	s.
1/.036	.001	.034	.04	.064	.528	1017	5000	W <b>1660</b>	77	10
1/.044	.0015	.034	.04	.064	.536	1044	5000	W <b>1662</b>	81	0
3/.029	.002	.036	.04	.064	.558	1139	4500	W <b>1664</b>	89	10
1/.064	.003	.036	.04	.064	.56	1154	5000	W <b>1666</b>	93	0
3/.036	.003	.038	.04	.064	.578	1236	4500	W <b>1668</b>	97	10
7/.029	.0045	.039	.04	.064	.589	1315	4500	W <b>1670</b>	106	0
7/.036	.007	.041	.05	.064	.642	1753	4000	W <b>1672</b>	126	0
7/.044	.01	.043	.05	.064	.67	1911	4000	W <b>1674</b>	146	0
7/.052	.0145	.046	.06	.064	.72	2334	4000	W <b>1676</b>	174	0
7/.064	.0225	.049	.06	.072	.818	2956	3500	W <b>1678</b>	221	0
19/.044	.03	.052	.06	.072	.852	3198	3500	W <b>1680</b>	249	0
19/.052	.04	.056	.06	.072	.9	3629	3000	W <b>1682</b>	299	0
19/.064	.06	.062	.07	.072	.992	4642	3000	W <b>1684</b>	384	0
19/.072	.075	.066	.07	.072	1.04	5118	3000	W <b>1686</b>	442	0
19/.083	.1	.072	.07	.072	1.107	5855	3000	W <b>1688</b>	527	0
37/.064	.12	.075	.07	.072	1.146	6320	3000	W <b>1690</b>	593	0
37/.072	.15	.08	.08	.08	1.408	7972	3000	W <b>1692</b>	744	0
37/.083	.2	.088	.08	.08	1.509	9220	2500	W <b>1694</b>	895	0
37/.093	.25	.095	.09	.104	1.661	11692	2500	W <b>1696</b>	1110	0
37/.103	.3	.102	.09	.104	1.745	13170	2500	W <b>1698</b>	1280	0
61/.093	.4	.114	.1	.104	1.905	16414	2500	W <b>1700</b>	1650	0
61/.103	.5	.121	.11	.128	2.077	20187	2500	W <b>1702</b>	1975	0
91/.093	.6	.125	.11	.128	2.181	22596	2500	W <b>1704</b>	2305	0
91/.103	.75	.131	.12	.16	2.387	27937	2500	W <b>1706</b>	2800	0
127/.093	.85	.135	.12	.16	2.471	31074	2500	W <b>1708</b>	3090	0
127/.103	1	.141	.12	.16	2.613	34101	2500	W <b>1710</b>	3625	0

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, 10% extra.

*For current carrying capacities see pages 17 to 21.*



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

# “C.M.A.” CABLES

## TWIN CORE (FLAT)

**BRAIDED**

**600 MEGOHM GRADE—CLASS No. 110.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Two cores, one red and one black, laid side by side, braided and compounded.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Approx. overall dimensions.	Approx. weight per 1000 yds.	Approx. minimum insulation resistance per mille at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	<b>.034</b>	<b>.165 × .285</b>	<b>99</b>	<b>2000</b>	<b>W 1721</b>	<b>29 0</b>
<b>1/.044</b>	<b>.0015</b>	<b>.034</b>	<b>.173 × .301</b>	<b>115</b>	<b>2000</b>	<b>W 1723</b>	<b>32 10</b>
<b>3/.029</b>	<b>.002</b>	<b>.036</b>	<b>.195 × .345</b>	<b>146</b>	<b>1250</b>	<b>W 1725</b>	<b>41 10</b>
<b>1/.064</b>	<b>.003</b>	<b>.036</b>	<b>.197 × .349</b>	<b>169</b>	<b>2000</b>	<b>W 1727</b>	<b>43 10</b>
<b>3/.036</b>	<b>.003</b>	<b>.038</b>	<b>.215 × .385</b>	<b>192</b>	<b>1250</b>	<b>W 1729</b>	<b>50 10</b>
<b>7/.029</b>	<b>.0045</b>	<b>.039</b>	<b>.226 × .407</b>	<b>235</b>	<b>1250</b>	<b>W 1731</b>	<b>63 10</b>
<b>7/.036</b>	<b>.007</b>	<b>.041</b>	<b>.259 × .473</b>	<b>349</b>	<b>900</b>	<b>W 1733</b>	<b>80 0</b>
<b>7/.044</b>	<b>.01</b>	<b>.043</b>	<b>.287 × .529</b>	<b>469</b>	<b>900</b>	<b>W 1735</b>	<b>104 0</b>
<b>7/.052</b>	<b>.0145</b>	<b>.046</b>	<b>.317 × .589</b>	<b>613</b>	<b>900</b>	<b>W 1737</b>	<b>133 0</b>
<b>7/.064</b>	<b>.0225</b>	<b>.049</b>	<b>.359 × .673</b>	<b>857</b>	<b>900</b>	<b>W 1739</b>	<b>178 0</b>
<b>19/.044</b>	<b>.03</b>	<b>.052</b>	<b>.428 × .776</b>	<b>1052</b>	<b>750</b>	<b>W 1741</b>	<b>217 0</b>
<b>19/.052</b>	<b>.04</b>	<b>.056</b>	<b>.476 × .872</b>	<b>1399</b>	<b>750</b>	<b>W 1743</b>	<b>288 0</b>
<b>19/.064</b>	<b>.06</b>	<b>.062</b>	<b>.568 × 1.036</b>	<b>2006</b>	<b>750</b>	<b>W 1745</b>	<b>394 0</b>
<b>19/.072</b>	<b>.075</b>	<b>.066</b>	<b>.616 × 1.132</b>	<b>2473</b>	<b>600</b>	<b>W 1747</b>	<b>481 0</b>
<b>19/.083</b>	<b>.1</b>	<b>.072</b>	<b>.683 × 1.266</b>	<b>3304</b>	<b>600</b>	<b>W 1749</b>	<b>612 0</b>
<b>37/.064</b>	<b>.12</b>	<b>.075</b>	<b>.722 × 1.344</b>	<b>3750</b>	<b>600</b>	<b>W 1751</b>	<b>715 0</b>
<b>37/.072</b>	<b>.15</b>	<b>.08</b>	<b>.788 × 1.476</b>	<b>4643</b>	<b>600</b>	<b>W 1753</b>	<b>871 0</b>
<b>37/.083</b>	<b>.2</b>	<b>.088</b>	<b>.909 × 1.698</b>	<b>6038</b>	<b>600</b>	<b>W 1755</b>	<b>1110 0</b>
<b>37/.093</b>	<b>.25</b>	<b>.095</b>	<b>.993 × 1.866</b>	<b>7459</b>	<b>600</b>	<b>W 1757</b>	<b>1355 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

**"C.M.A." CABLES**

**TWIN CORE (FLAT)**

**BRAIDED**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**2500 MEGOHM GRADE—CLASS No. 210.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Two cores, one red and one black, laid side by side, braided and compounded.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Approx. overall dimensions.	Approx. weight per 1000 yds.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	lb.	Megohms.		£ s.
1/.036	.001	.034	.165 × .285	99	5000	W <b>1770</b>	<b>31 10</b>
1/.044	.0015	.034	.173 × .301	115	5000	W <b>1772</b>	<b>35 10</b>
3/.029	.002	.036	.195 × .345	146	4500	W <b>1774</b>	<b>45 0</b>
1/.064	.003	.036	.197 × .349	169	5000	W <b>1776</b>	<b>47 0</b>
3/.036	.003	.038	.215 × .385	192	4500	W <b>1778</b>	<b>54 10</b>
7/.029	.0045	.039	.226 × .407	235	4500	W <b>1780</b>	<b>68 10</b>
7/.036	.007	.041	.259 × .473	349	4000	W <b>1782</b>	<b>86 0</b>
7/.044	.01	.043	.287 × .529	469	4000	W <b>1784</b>	<b>112 0</b>
7/.052	.0145	.046	.317 × .589	613	4000	W <b>1786</b>	<b>144 0</b>
7/.064	.0225	.049	.359 × .673	857	3500	W <b>1788</b>	<b>192 0</b>
19/.044	.03	.052	.428 × .776	1052	3500	W <b>1790</b>	<b>235 0</b>
19/.052	.04	.056	.476 × .872	1399	3000	W <b>1792</b>	<b>311 0</b>
19/.064	.06	.062	.568 × 1.036	2006	3000	W <b>1794</b>	<b>425 0</b>
19/.072	.075	.066	.616 × 1.132	2473	3000	W <b>1796</b>	<b>518 0</b>
19/.083	.1	.072	.683 × 1.266	3304	3000	W <b>1798</b>	<b>658 0</b>
37/.064	.12	.075	.722 × 1.344	3750	3000	W <b>1800</b>	<b>769 0</b>
37/.072	.15	.08	.788 × 1.476	4643	3000	W <b>1802</b>	<b>937 0</b>
37/.083	.2	.088	.909 × 1.698	6038	2500	W <b>1804</b>	<b>1195 0</b>
37/.093	.25	.095	.993 × 1.866	7459	2500	W <b>1806</b>	<b>1455 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

**S.E.C.****FIRELLI GENERAL****C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

# “C.M.A.” CABLES

## TWIN CORE (CIRCULAR)

**BRAIDED****600 MEGOHM GRADE—CLASS No. III.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulate with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Two cores **one red and one black, twisted together and wormed circular, taped, braided and compounded.**

No. and diameter of conductors.	Nominal area.	Thickness of Insulation.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.034	.309	129	2000	W <b>1821</b>	<b>39 10</b>
<b>1/.044</b>	<b>.0015</b>	.034	.325	150	2000	W <b>1823</b>	<b>44 10</b>
<b>3/.029</b>	<b>.002</b>	.036	.369	189	1250	W <b>1825</b>	<b>56 0</b>
<b>1/.064</b>	<b>.003</b>	.036	.373	214	2000	W <b>1827</b>	<b>58 10</b>
<b>3/.036</b>	<b>.003</b>	.038	.409	268	1250	W <b>1829</b>	<b>67 0</b>
<b>7/.029</b>	<b>.0045</b>	.039	.431	320	1250	W <b>1831</b>	<b>81 0</b>
<b>7/.036</b>	<b>.007</b>	.041	.497	423	900	W <b>1833</b>	<b>100 0</b>
<b>7/.044</b>	<b>.01</b>	.043	.553	560	900	W <b>1835</b>	<b>129 0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.648	724	900	W <b>1837</b>	<b>162 0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.732	1011	900	W <b>1839</b>	<b>215 0</b>
<b>19/.044</b>	<b>.03</b>	.052	.8	1220	750	W <b>1841</b>	<b>260 0</b>
<b>19/.052</b>	<b>.04</b>	.056	.924	1591	750	W <b>1843</b>	<b>345 0</b>
<b>19/.064</b>	<b>.06</b>	.062	1.068	2361	750	W <b>1845</b>	<b>467 0</b>
<b>19/.072</b>	<b>.075</b>	.066	1.164	2894	600	W <b>1847</b>	<b>568 0</b>
<b>19/.083</b>	<b>.1</b>	.072	1.298	3713	600	W <b>1849</b>	<b>715 0</b>
<b>37/.064</b>	<b>.12</b>	.075	1.396	4215	600	W <b>1851</b>	<b>826 0</b>
<b>37/.072</b>	<b>.15</b>	.08	1.528	5202	600	W <b>1853</b>	<b>1002 0</b>
<b>37/.083</b>	<b>.2</b>	.088	1.73	6784	600	W <b>1855</b>	<b>1270 0</b>
<b>37/.093</b>	<b>.25</b>	.095	1.898	8348	600	W <b>1857</b>	<b>1540 0</b>
<b>37/.103</b>	<b>.3</b>	.102	2.066	10094	600	W <b>1859</b>	<b>1840 0</b>
<b>61/.093</b>	<b>.4</b>	.114	2.346	13462	600	W <b>1861</b>	<b>2440 0</b>
<b>61/.103</b>	<b>.5</b>	.121	2.554	16273	600	W <b>1863</b>	<b>2930 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

**"C.M.A." CABLES**  
**TWIN CORE (CIRCULAR)**

**BRAIDED**



**C.M.A.**

**2500 MEGOHM GRADE—CLASS No. 211.**

Regd. Trade  
Mark (No.  
422219/20/21).

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Two cores, one red and one black, twisted together and wormed circular, taped, braided and compounded.

No. and diameter of conductors.	Nominal area.	Thickness of Insulation.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./Ins.	Sq. ins.	ins.	ins.	lb.	Megohms.		£ s.
1/.036	.001	.034	.309	129	5000	W <b>1880</b>	42 10
1/.044	.0015	.034	.325	150	5000	W <b>1882</b>	47 10
3/.029	.002	.036	.369	189	4500	W <b>1884</b>	60 0
1/.064	.003	.036	.373	214	5000	W <b>1886</b>	62 10
3/.036	.003	.038	.409	268	4500	W <b>1888</b>	71 10
7/.029	.0045	.039	.431	320	4500	W <b>1890</b>	86 10
7/.036	.007	.041	.497	423	4000	W <b>1892</b>	107 0
7/.044	.01	.043	.553	560	4000	W <b>1894</b>	138 0
7/.052	.0145	.046	.648	724	4000	W <b>1896</b>	174 0
7/.064	.0225	.049	.732	1011	3500	W <b>1898</b>	231 0
19/.044	.03	.052	.8	1220	3500	W <b>1900</b>	280 0
19/.052	.04	.056	.924	1591	3000	W <b>1902</b>	370 0
19/.064	.06	.062	1.068	2361	3000	W <b>1904</b>	501 0
19/.072	.075	.066	1.164	2894	3000	W <b>1906</b>	609 0
19/.083	.1	.072	1.298	3713	3000	W <b>1908</b>	766 0
37/.064	.12	.075	1.396	4215	3000	W <b>1910</b>	886 0
37/.072	.15	.08	1.528	5202	3000	W <b>1912</b>	1075 0
37/.083	.2	.088	1.73	6784	2500	W <b>1914</b>	1365 0
37/.093	.25	.095	1.898	8348	2500	W <b>1916</b>	1650 0
37/.103	.3	.102	2.066	10094	2500	W <b>1918</b>	1970 0
61/.093	.4	.114	2.346	13462	2500	W <b>1920</b>	2620 0
61/.103	.5	.121	2.554	16273	2500	W <b>1922</b>	3145 0

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10%** extra.

*For current carrying capacities see pages 17 to 21.*



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

# “C.M.A.” CABLES

## TWIN CORE (FLAT)

LEAD COVERED

**600 MEGOHM GRADE—CLASS No. 112.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Two cores, one red and one black, laid side by side, covered with a solid tube of lead.

No. and diam. of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of Lead.	Approx. overall dimensions.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./Ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
1/.036	.001	.034	.04	.224 × .334	522	2000	W <b>1941</b>	42 0
1/.044	.0015	.034	.04	.232 × .36	561	2000	W <b>1943</b>	46 10
3/.029	.002	.036	.04	.254 × .404	647	1250	W <b>1945</b>	57 10
1/.064	.003	.036	.04	.256 × .408	674	2000	W <b>1947</b>	60 0
3/.036	.003	.038	.04	.274 × .444	746	1250	W <b>1949</b>	69 10
7/.029	.0045	.039	.05	.305 × .486	1000	1250	W <b>1951</b>	85 10
7/.036	.007	.041	.05	.338 × .552	1177	900	W <b>1953</b>	104 0
7/.044	.01	.043	.05	.366 × .608	1386	900	W <b>1955</b>	132 0
7/.052	.0145	.046	.06	.416 × .688	1884	900	W <b>1957</b>	170 0
7/.064	.0225	.049	.06	.458 × .772	2295	900	W <b>1959</b>	220 0
19/.044	.03	.052	.07	.512 × .86	2873	750	W <b>1961</b>	270 0
19/.052	.04	.056	.08	.58 × .976	3903	750	W <b>1963</b>	358 0
19/.064	.06	.062	.08	.66 × 1.128	4928	750	W <b>1965</b>	477 0
19/.072	.075	.066	.08	.708 × 1.224	5678	600	W <b>1967</b>	573 0
19/.083	.1	.072	.09	.795 × 1.378	7274	600	W <b>1969</b>	728 0
37/.064	.12	.075	.09	.834 × 1.456	8017	600	W <b>1971</b>	838 0
37/.072	.15	.08	.09	.9 × 1.588	9323	600	W <b>1973</b>	1008 0
37/.083	.2	.088	.1	1.021 × 1.81	11986	600	W <b>1975</b>	1280 0
37/.093	.25	.095	.11	1.125 × 1.998	14748	600	W <b>1977</b>	1580 0

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, 10% extra.

For current carrying capacities see pages 17 to 21.

**“C.M.A.” CABLES**

**TWIN CORE (FLAT)**

**LEAD COVERED**



**C.M.A.**

**2500 MEGOHM GRADE—CLASS No. 212.**

Regd. Trade  
Mark (No.  
422219/20/21).

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Two cores, one red and one black, laid side by side, covered with a solid tube of lead.

No. and diam. of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of Lead.	Approx. overall dimensions.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£	s.
1/.036	.001	.034	.04	.224 × .334	522	5000	W 1990	44	10
1/.044	.0015	.034	.04	.232 × .36	561	5000	W 1992	49	0
3/.029	.002	.036	.04	.254 × .404	647	4500	W 1994	81	0
1/.064	.003	.036	.04	.256 × .408	674	5000	W 1996	63	10
3/.036	.003	.038	.04	.274 × .444	746	4500	W 1998	74	0
7/.029	.0045	.039	.05	.305 × .486	1000	4500	W 2000	91	0
7/.036	.007	.041	.05	.338 × .552	1177	4000	W 2002	110	0
7/.044	.01	.043	.05	.366 × .608	1386	4000	W 2004	140	0
7/.052	.0145	.046	.06	.416 × .688	1884	4000	W 2006	181	0
7/.064	.0225	.049	.06	.458 × .772	2295	3500	W 2008	234	0
19/.044	.03	.052	.07	.512 × .86	2873	3500	W 2010	285	0
19/.052	.04	.056	.08	.58 × .976	3903	3000	W 2012	381	0
19/.064	.06	.062	.08	.66 × 1.128	4928	3000	W 2014	508	0
19/.072	.075	.066	.08	.708 × 1.224	5678	3000	W 2016	610	0
19/.083	.1	.072	.09	.795 × 1.378	7274	3000	W 2018	775	0
37/.064	.12	.075	.09	.834 × 1.456	8017	3000	W 2020	890	0
37/.072	.15	.08	.09	.9 × 1.588	9323	3000	W 2022	1071	0
37/.083	.2	.088	.1	1.021 × 1.81	11986	2500	W 2024	1365	0
37/.093	.25	.095	.11	1.125 × 1.998	14748	2500	W 2026	1660	0

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

**S.E.C.****PIRELLI GENERAL****C.M.A.**
 Regd. Trade  
 Mark (No.  
 422219/20/21).
**“C.M.A.” CABLES****TWIN CORE (CIRCULAR)****LEAD COVERED****600 MEGOHM GRADE—CLASS No. 113.**
**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Two cores, one red and one black, twisted together and wormed circular, taped and covered with a solid tube of lead.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of Lead.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.034	.04	.344	647	2000	W <b>2041</b>	<b>48 10</b>
<b>1/.044</b>	<b>.0015</b>	.034	.04	.36	697	2000	W <b>2043</b>	<b>54 0</b>
<b>3/.029</b>	<b>.002</b>	.036	.04	.404	800	1250	W <b>2045</b>	<b>67 0</b>
<b>1/.064</b>	<b>.003</b>	.036	.04	.408	828	2000	W <b>2047</b>	<b>69 10</b>
<b>3/.036</b>	<b>.003</b>	.038	.04	.444	916	1250	W <b>2049</b>	<b>80 0</b>
<b>7/.029</b>	<b>.0045</b>	.039	.05	.486	1217	1250	W <b>2051</b>	<b>99 10</b>
<b>7/.036</b>	<b>.007</b>	.041	.05	.552	1422	900	W <b>2053</b>	<b>121 0</b>
<b>7/.044</b>	<b>.01</b>	.043	.05	.608	1672	900	W <b>2055</b>	<b>152 0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.06	.688	2256	900	W <b>2057</b>	<b>197 0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.06	.772	2735	900	W <b>2059</b>	<b>254 0</b>
<b>19/.044</b>	<b>.03</b>	.052	.07	.86	3402	750	W <b>2061</b>	<b>315 0</b>
<b>19/.052</b>	<b>.04</b>	.056	.08	.984	4593	750	W <b>2063</b>	<b>417 0</b>
<b>19/.064</b>	<b>.06</b>	.062	.08	1.128	5770	750	W <b>2065</b>	<b>553 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.08	1.224	6623	600	W <b>2067</b>	<b>660 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.09	1.378	8486	600	W <b>2069</b>	<b>836 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.09	1.456	9302	600	W <b>2071</b>	<b>958 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.09	1.588	10792	600	W <b>2073</b>	<b>1147 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.1	1.81	13904	600	W <b>2075</b>	<b>1460 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.11	1.998	17096	600	W <b>2077</b>	<b>1760 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.12	2.186	20608	600	W <b>2079</b>	<b>2110 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.13	2.486	26712	600	W <b>2081</b>	<b>2795 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.14	2.714	31920	600	W <b>2083</b>	<b>3330 0</b>

 Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**
*For current carrying capacities see pages 17 to 21.*



**"C.M.A." CABLES**  
**TWIN CORE (CIRCULAR)**

**LEAD COVERED**



**C.M.A.**

**2500 MEGOHM GRADE—CLASS No. 213.**

Regd. Trade  
Mark (No.  
422219/20/21).

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Two cores, one red and one black, twisted together and wormed circular, taped and covered with a solid tube of lead.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of Lead.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
1/.036	.001	.034	.04	.344	647	5000	W <b>2100</b>	51 10
1/.044	.0015	.034	.04	.36	697	5000	W <b>2102</b>	57 10
3/.029	.002	.036	.04	.404	800	4500	W <b>2104</b>	71 0
1/.064	.003	.036	.04	.408	828	5000	W <b>2106</b>	73 10
3/.036	.003	.038	.04	.444	916	4500	W <b>2108</b>	84 10
7/.029	.0045	.039	.05	.486	1217	4500	W <b>2110</b>	105 0
7/.036	.007	.041	.05	.552	1422	4000	W <b>2112</b>	128 0
7/.044	.01	.043	.05	.608	1672	4000	W <b>2114</b>	161 0
7/.052	.0145	.046	.06	.688	2256	4000	W <b>2116</b>	209 0
7/.064	.0225	.049	.06	.772	2735	3500	W <b>2118</b>	269 0
19/.044	.03	.052	.07	.86	3402	3500	W <b>2120</b>	330 0
19/.052	.04	.056	.08	.984	4593	3000	W <b>2122</b>	442 0
19/.064	.06	.062	.08	1.128	5770	3000	W <b>2124</b>	587 0
19/.072	.075	.066	.08	1.224	6623	3000	W <b>2126</b>	701 0
19/.083	.1	.072	.09	1.378	8486	3000	W <b>2128</b>	887 0
37/.064	.12	.075	.09	1.456	9302	3000	W <b>2130</b>	1017 0
37/.072	.15	.08	.09	1.588	10792	3000	W <b>2132</b>	1219 0
37/.083	.2	.088	.1	1.81	13904	2500	W <b>2134</b>	1550 0
37/.093	.25	.095	.11	1.998	17096	2500	W <b>2136</b>	1870 0
37/.103	.3	.102	.12	2.186	20608	2500	W <b>2138</b>	2240 0
61/.093	.4	.114	.13	2.486	26712	2500	W <b>2140</b>	2975 0
61/.103	.5	.121	.14	2.714	31920	2500	W <b>2142</b>	3545 0

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, 10% extra.

*For current carrying capacities see pages 17 to 21.*



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

## “C.M.A.” CABLES

### TWIN CORE (NO LEAD)

JUTE BEDDED AND SINGLE WIRE ARMoured

(ARMOURING LEFT BARE)

**600 MEGOHM GRADE—CLASS No. 114.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Two cores, one red and one black, twisted together, wormed circular, taped, jute bedded and compounded, and armoured with a layer of galvanized steel wires.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Diam. of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.	
No./Ins.	Sq. ins.	Ins.	Ins.	Ins.	Lb.	Megohms.		£	s.
1/.036	.001	.034	.064	.472	725	2000	W <b>2151</b>	68	10
1/.044	.0015	.034	.064	.488	747	2000	W <b>2153</b>	74	10
3/.029	.002	.036	.064	.532	859	1250	W <b>2155</b>	89	0
1/.064	.003	.036	.064	.536	884	2000	W <b>2157</b>	92	0
3/.036	.003	.038	.064	.572	983	1250	W <b>2159</b>	103	0
7/.029	.0045	.039	.064	.594	1070	1250	W <b>2161</b>	118	10
7/.036	.007	.041	.072	.716	1428	900	W <b>2163</b>	153	0
7/.044	.01	.043	.072	.772	1699	900	W <b>2165</b>	185	0
7/.052	.0145	.046	.072	.832	1951	900	W <b>2167</b>	222	0
7/.064	.0225	.049	.072	.916	2356	900	W <b>2169</b>	280	0
19/.044	.03	.052	.072	.984	2695	750	W <b>2171</b>	340	0
19/.052	.04	.056	.08	1.184	3657	750	W <b>2173</b>	444	0
19/.064	.06	.062	.08	1.328	4631	750	W <b>2175</b>	583	0
19/.072	.075	.066	.104	1.472	6040	600	W <b>2177</b>	722	0
19/.083	.1	.072	.104	1.606	7297	600	W <b>2179</b>	888	0
37/.064	.12	.075	.104	1.684	7980	600	W <b>2181</b>	1009	0
37/.072	.15	.08	.128	1.864	10221	600	W <b>2183</b>	1233	0
37/.083	.2	.088	.16	2.13	13787	600	W <b>2185</b>	1580	0
37/.093	.25	.095	.16	2.298	16004	600	W <b>2187</b>	1875	0
37/.103	.3	.102	.16	2.466	18424	600	W <b>2189</b>	2210	0
61/.093	.4	.114	.192	2.81	25094	600	W <b>2191</b>	2910	0
61/.103	.5	.121	.192	3.018	28837	600	W <b>2193</b>	3450	0

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

**"C.M.A." CABLES**

**TWIN CORE (NO LEAD)**

**JUTE BEDDED AND SINGLE WIRE ARMoured**

**(ARMOURING LEFT BARE)**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**2500 MEGOHM GRADE—CLASS No. 214.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Two cores, one red and one black, twisted together, wormed circular, taped, jute bedded and compounded, and armoured with a layer of galvanized steel wires.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Diam. of Armour-ing. Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mille at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.034	.064	.472	725	5000	W <b>2210</b>	<b>71 10</b>
<b>1/.044</b>	<b>.0015</b>	.034	.064	.488	747	5000	W <b>2212</b>	<b>78 0</b>
<b>3/.029</b>	<b>.002</b>	.036	.064	.532	859	4500	W <b>2214</b>	<b>93 0</b>
<b>1/.064</b>	<b>.003</b>	.036	.064	.536	884	5000	W <b>2216</b>	<b>96 0</b>
<b>3/.036</b>	<b>.003</b>	.038	.064	.572	983	4500	W <b>2218</b>	<b>107 10</b>
<b>7/.029</b>	<b>.0045</b>	.039	.064	.594	1070	4500	W <b>2220</b>	<b>124 0</b>
<b>7/.036</b>	<b>.007</b>	.041	.072	.716	1428	4000	W <b>2222</b>	<b>160 0</b>
<b>7/.044</b>	<b>.01</b>	.043	.072	.772	1699	4000	W <b>2224</b>	<b>194 0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.072	.832	1951	4000	W <b>2226</b>	<b>234 0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.072	.916	2356	3500	W <b>2228</b>	<b>295 0</b>
<b>19/.044</b>	<b>.03</b>	.052	.072	.984	2695	3500	W <b>2230</b>	<b>355 0</b>
<b>19/.052</b>	<b>.04</b>	.056	.08	1.184	3657	3000	W <b>2232</b>	<b>469 0</b>
<b>19/.064</b>	<b>.06</b>	.062	.08	1.328	4631	3000	W <b>2234</b>	<b>617 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.104	1.472	6040	3000	W <b>2236</b>	<b>763 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.104	1.606	7297	3000	W <b>2238</b>	<b>939 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.104	1.684	7980	3000	W <b>2240</b>	<b>1068 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.128	1.864	10221	3000	W <b>2242</b>	<b>1305 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.16	2.13	13787	2500	W <b>2244</b>	<b>1670 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.16	2.298	16004	2500	W <b>2246</b>	<b>1985 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.16	2.466	18424	2500	W <b>2248</b>	<b>2340 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.192	2.81	25094	2500	W <b>2250</b>	<b>3090 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.192	3.018	28837	2500	W <b>2252</b>	<b>3665 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

## "C.M.A." CABLES

### TWIN CORE (NO LEAD)

**JUTE BEDDED, SINGLE WIRE ARMoured, AND  
SERVED OVERALL**

**600 MEGOHM GRADE—CLASS No. 115.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Two cores, one red and one black, twisted together and wormed circular, taped, jute bedded and compounded, armoured with a layer of galvanized steel wires, jute served, and further compounded overall.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Diam. of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
1/.036	.001	.034	.064	.592	883	2000	W 2261	89 10
1/.044	.0015	.034	.064	.608	906	2000	W 2263	96 10
3/.029	.002	.036	.064	.652	1159	1250	W 2265	112 10
1/.064	.003	.036	.064	.656	1185	2000	W 2267	115 10
3/.036	.003	.038	.064	.692	1300	1250	W 2269	128 0
7/.029	.0045	.039	.064	.714	1403	1250	W 2271	144 0
7/.036	.007	.041	.072	.836	1814	900	W 2273	183 0
7/.044	.01	.043	.072	.892	2112	900	W 2275	218 0
7/.052	.0145	.046	.072	.952	2396	900	W 2277	257 0
7/.064	.0225	.049	.072	1.036	2840	900	W 2279	318 0
19/.044	.03	.052	.072	1.104	3211	750	W 2281	385 0
19/.052	.04	.056	.08	1.384	4263	750	W 2283	501 0
19/.064	.06	.062	.08	1.528	5310	750	W 2285	646 0
19/.072	.075	.066	.104	1.672	6787	600	W 2287	792 0
19/.083	.1	.072	.104	1.806	8112	600	W 2289	964 0
37/.064	.12	.075	.104	1.884	8829	600	W 2291	1088 0
37/.072	.15	.08	.128	2.064	11172	600	W 2293	1320 0
37/.083	.2	.088	.16	2.33	14840	600	W 2295	1680 0
37/.093	.25	.095	.16	2.498	17142	600	W 2297	1985 0
37/.103	.3	.102	.16	2.666	19647	600	W 2299	2325 0
61/.093	.4	.114	.192	3.01	26476	600	W 2301	3145 0
61/.103	.5	.121	.192	3.218	30314	600	W 2303	3595 0

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, 10% extra.

*For current carrying capacities see pages 17 to 21.*

**"C.M.A." CABLES**

**TWIN CORE (NO LEAD)**

**JUTE BEDDED, SINGLE WIRE ARMoured, AND  
SERVED OVERALL**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**2500 MEGOHM GRADE—CLASS No. 215.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Two cores, one red and one black, twisted together and wormed circular, taped, jute bedded and compounded, armoured with a layer of galvanized steel wires, jute served, and further compounded overall.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Diam. of Armour-ing. Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mille at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	<b>.034</b>	<b>.064</b>	<b>.592</b>	<b>883</b>	<b>5000</b>	<b>W 2320</b>	<b>92 10</b>
<b>1/.044</b>	<b>.0015</b>	<b>.034</b>	<b>.064</b>	<b>.608</b>	<b>906</b>	<b>5000</b>	<b>W 2322</b>	<b>100 0</b>
<b>3/.029</b>	<b>.002</b>	<b>.036</b>	<b>.064</b>	<b>.652</b>	<b>1159</b>	<b>4500</b>	<b>W 2324</b>	<b>118 10</b>
<b>1/.064</b>	<b>.003</b>	<b>.036</b>	<b>.064</b>	<b>.656</b>	<b>1185</b>	<b>5000</b>	<b>W 2326</b>	<b>119 10</b>
<b>3/.036</b>	<b>.003</b>	<b>.038</b>	<b>.064</b>	<b>.692</b>	<b>1300</b>	<b>4500</b>	<b>W 2328</b>	<b>132 10</b>
<b>7/.029</b>	<b>.0045</b>	<b>.039</b>	<b>.064</b>	<b>.714</b>	<b>1403</b>	<b>4500</b>	<b>W 2330</b>	<b>149 10</b>
<b>7/.036</b>	<b>.007</b>	<b>.041</b>	<b>.072</b>	<b>.836</b>	<b>1814</b>	<b>4000</b>	<b>W 2332</b>	<b>190 0</b>
<b>7/.044</b>	<b>.01</b>	<b>.043</b>	<b>.072</b>	<b>.892</b>	<b>2112</b>	<b>4000</b>	<b>W 2334</b>	<b>227 0</b>
<b>7/.052</b>	<b>.0145</b>	<b>.046</b>	<b>.072</b>	<b>.952</b>	<b>2396</b>	<b>4000</b>	<b>W 2336</b>	<b>269 0</b>
<b>7/.064</b>	<b>.0225</b>	<b>.049</b>	<b>.072</b>	<b>1.036</b>	<b>2840</b>	<b>3500</b>	<b>W 2338</b>	<b>333 0</b>
<b>19/.044</b>	<b>.03</b>	<b>.052</b>	<b>.072</b>	<b>1.104</b>	<b>3211</b>	<b>3500</b>	<b>W 2340</b>	<b>400 0</b>
<b>19/.052</b>	<b>.04</b>	<b>.056</b>	<b>.08</b>	<b>1.384</b>	<b>4263</b>	<b>3000</b>	<b>W 2342</b>	<b>526 0</b>
<b>19/.064</b>	<b>.06</b>	<b>.062</b>	<b>.08</b>	<b>1.528</b>	<b>5310</b>	<b>3000</b>	<b>W 2344</b>	<b>680 0</b>
<b>19/.072</b>	<b>.075</b>	<b>.066</b>	<b>.104</b>	<b>1.672</b>	<b>6787</b>	<b>3000</b>	<b>W 2346</b>	<b>833 0</b>
<b>19/.083</b>	<b>.1</b>	<b>.072</b>	<b>.104</b>	<b>1.806</b>	<b>8112</b>	<b>3000</b>	<b>W 2348</b>	<b>1015 0</b>
<b>37/.064</b>	<b>.12</b>	<b>.075</b>	<b>.104</b>	<b>1.884</b>	<b>8829</b>	<b>3000</b>	<b>W 2350</b>	<b>1147 0</b>
<b>37/.072</b>	<b>.15</b>	<b>.08</b>	<b>.128</b>	<b>2.064</b>	<b>11172</b>	<b>3000</b>	<b>W 2352</b>	<b>1392 0</b>
<b>37/.083</b>	<b>.2</b>	<b>.088</b>	<b>.16</b>	<b>2.33</b>	<b>14840</b>	<b>2500</b>	<b>W 2354</b>	<b>1770 0</b>
<b>37/.093</b>	<b>.25</b>	<b>.095</b>	<b>.16</b>	<b>2.498</b>	<b>17142</b>	<b>2500</b>	<b>W 2356</b>	<b>2095 0</b>
<b>37/.103</b>	<b>.3</b>	<b>.102</b>	<b>.16</b>	<b>2.666</b>	<b>19647</b>	<b>2500</b>	<b>W 2358</b>	<b>2455 0</b>
<b>61/.093</b>	<b>.4</b>	<b>.114</b>	<b>.192</b>	<b>3.01</b>	<b>26476</b>	<b>2500</b>	<b>W 2360</b>	<b>3325 0</b>
<b>61/.103</b>	<b>.5</b>	<b>.121</b>	<b>.192</b>	<b>3.218</b>	<b>30314</b>	<b>2500</b>	<b>W 2362</b>	<b>3810 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, 10% extra.

*For current carrying capacities see pages 17 to 21.*



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

## "C.M.A." CABLES

### TWIN CORE

**LEAD COVERED AND SINGLE WIRE ARMoured**

**(ARMOURING LEFT BARE)**

**600 MEGOHM GRADE—CLASS No. 116.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Two cores, one red and one black, twisted together and wormed circular, taped, covered with a solid tube of lead, jute bedded and compounded, and armoured with a layer of galvanized steel wires.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insula-tion.	Thick-ness of Lead.	Diameter of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./Ins.	Sq. ins.	ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.034	.04	.064	.552	1417	2000	W <b>2371</b>	<b>100 0</b>
<b>1/.044</b>	<b>.0015</b>	.034	.04	.064	.568	1503	2000	W <b>2373</b>	<b>107 10</b>
<b>3/.029</b>	<b>.002</b>	.036	.04	.072	.668	1943	1250	W <b>2375</b>	<b>135 0</b>
<b>1/.064</b>	<b>.003</b>	.036	.04	.072	.672	1972	2000	W <b>2377</b>	<b>137 10</b>
<b>3/.036</b>	<b>.003</b>	.038	.04	.072	.708	2114	1250	W <b>2379</b>	<b>152 0</b>
<b>7/.029</b>	<b>.0045</b>	.039	.05	.072	.75	2521	1250	W <b>2381</b>	<b>176 0</b>
<b>7/.036</b>	<b>.007</b>	.041	.05	.072	.816	2829	900	W <b>2383</b>	<b>203 0</b>
<b>7/.044</b>	<b>.01</b>	.043	.05	.072	.872	3184	900	W <b>2385</b>	<b>242 0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.06	.072	.952	3928	900	W <b>2387</b>	<b>294 0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.06	.072	1.036	4565	900	W <b>2389</b>	<b>362 0</b>
<b>19/.044</b>	<b>.03</b>	.052	.07	.08	1.22	6020	750	W <b>2391</b>	<b>440 0</b>
<b>19/.052</b>	<b>.04</b>	.056	.08	.08	1.344	7241	750	W <b>2393</b>	<b>584 0</b>
<b>19/.064</b>	<b>.06</b>	.062	.08	.104	1.536	9470	750	W <b>2395</b>	<b>768 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.08	.104	1.632	10696	600	W <b>2397</b>	<b>893 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.09	.128	1.834	13811	600	W <b>2399</b>	<b>1127 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.09	.128	1.912	15004	600	W <b>2401</b>	<b>1279 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.09	.128	2.044	16954	600	W <b>2403</b>	<b>1488 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.1	.16	2.33	22358	600	W <b>2405</b>	<b>1885 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.11	.16	2.518	26287	600	W <b>2407</b>	<b>2225 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.12	.192	2.77	32599	600	W <b>2409</b>	<b>2685 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.13	.192	3.07	40398	600	W <b>2411</b>	<b>3430 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.14	.192	3.298	46657	600	W <b>2413</b>	<b>4040 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, 10% extra.

*For current carrying capacities see pages 17 to 21.*

# “C.M.A.” CABLES

## TWIN CORE

### LEAD COVERED AND SINGLE WIRE ARMoured

(ARMOURING LEFT BARE)



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

### 2500 MEGOHM GRADE.—CLASS No. 216.

Suitable for Working Pressures up to 250 volts above earth potential.

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Two cores, one red and one black, twisted together and wormed circular, taped, covered with a solid tube of lead, jute bedded and compounded, and armoured with a layer of galvanized steel wires.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of Lead.	Diameter of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	ins.	ins.	ins.	ins.	lb.	Megohms.		£	s.
1/.036	.001	.034	.04	.064	.552	1417	5000	W <b>2430</b>	103	0
1/.044	.0015	.034	.04	.064	.568	1503	5000	W <b>2432</b>	111	0
3/.029	.002	.036	.04	.072	.668	1943	4500	W <b>2434</b>	139	0
1/.064	.003	.036	.04	.072	.672	1972	5000	W <b>2436</b>	141	10
3/.036	.003	.038	.04	.072	.708	2114	4500	W <b>2438</b>	156	10
7/.029	.0045	.039	.05	.072	.75	2521	4500	W <b>2440</b>	181	10
7/.036	.007	.041	.05	.072	.816	2829	4000	W <b>2442</b>	210	0
7/.044	.01	.043	.05	.072	.872	3184	4000	W <b>2444</b>	251	0
7/.052	.0145	.046	.06	.072	.952	3928	4000	W <b>2446</b>	306	0
7/.064	.0225	.049	.06	.072	1.036	4565	3500	W <b>2448</b>	377	0
19/.044	.03	.052	.07	.08	1.22	6020	3500	W <b>2450</b>	460	0
19/.052	.04	.056	.08	.08	1.344	7241	3000	W <b>2452</b>	609	0
19/.064	.06	.062	.08	.104	1.536	9470	3000	W <b>2454</b>	802	0
19/.072	.075	.066	.08	.104	1.632	10696	3000	W <b>2456</b>	934	0
19/.083	.1	.072	.09	.128	1.834	13811	3000	W <b>2458</b>	1178	0
37/.064	.12	.075	.09	.128	1.912	15004	3000	W <b>2460</b>	1338	0
37/.072	.15	.08	.09	.128	2.044	16954	3000	W <b>2462</b>	1560	0
37/.083	.2	.088	.1	.16	2.33	22358	2500	W <b>2464</b>	1975	0
37/.093	.25	.095	.11	.16	2.518	26287	2500	W <b>2466</b>	2335	0
37/.103	.3	.102	.12	.192	2.77	32599	2500	W <b>2468</b>	2815	0
61/.093	.4	.114	.13	.192	3.07	40398	2500	W <b>2470</b>	3610	0
61/.103	.5	.121	.14	.192	3.298	46657	2500	W <b>2472</b>	4255	0

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, 10% extra.

For current carrying capacities see pages 17 to 21.



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

## “C.M.A.” CABLES

### TWIN CORE

**LEAD COVERED, SINGLE WIRE ARMoured, AND  
SERVED OVERALL**

**600 MEGOHM GRADE—CLASS No. 117.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Two cores, one red and one black, twisted together and wormed circular, taped, covered with a solid tube of lead, jute bedded and compounded, armoured with a layer of galvanized steel wires, and jute served and further compounded overall.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of Lead.	Diameter of Armoured Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mille at 60° F.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	ins.	ins.	ins.	ins.	lb.	Megohms.		£	s.
<b>1/.036</b>	<b>.001</b>	<b>.034</b>	<b>.04</b>	<b>.064</b>	<b>.672</b>	<b>1726</b>	<b>2000</b>	<b>W 2481</b>	<b>123</b>	<b>0</b>
<b>1/.044</b>	<b>.0015</b>	<b>.034</b>	<b>.04</b>	<b>.064</b>	<b>.688</b>	<b>1817</b>	<b>2000</b>	<b>W 2483</b>	<b>131</b>	<b>10</b>
<b>3/.029</b>	<b>.002</b>	<b>.036</b>	<b>.04</b>	<b>.072</b>	<b>.788</b>	<b>2308</b>	<b>1250</b>	<b>W 2485</b>	<b>162</b>	<b>10</b>
<b>1/.064</b>	<b>.003</b>	<b>.036</b>	<b>.04</b>	<b>.072</b>	<b>.792</b>	<b>2340</b>	<b>2000</b>	<b>W 2487</b>	<b>165</b>	<b>10</b>
<b>3/.036</b>	<b>.003</b>	<b>.038</b>	<b>.04</b>	<b>.072</b>	<b>.828</b>	<b>2496</b>	<b>1250</b>	<b>W 2489</b>	<b>181</b>	<b>0</b>
<b>7/.029</b>	<b>.0045</b>	<b>.039</b>	<b>.05</b>	<b>.072</b>	<b>.87</b>	<b>2927</b>	<b>1250</b>	<b>W 2491</b>	<b>207</b>	<b>0</b>
<b>7/.036</b>	<b>.007</b>	<b>.041</b>	<b>.05</b>	<b>.072</b>	<b>.936</b>	<b>3262</b>	<b>900</b>	<b>W 2493</b>	<b>236</b>	<b>0</b>
<b>7/.044</b>	<b>.01</b>	<b>.043</b>	<b>.05</b>	<b>.072</b>	<b>.992</b>	<b>3646</b>	<b>900</b>	<b>W 2495</b>	<b>278</b>	<b>0</b>
<b>7/.052</b>	<b>.0145</b>	<b>.046</b>	<b>.06</b>	<b>.072</b>	<b>1.072</b>	<b>4427</b>	<b>900</b>	<b>W 2497</b>	<b>333</b>	<b>0</b>
<b>7/.064</b>	<b>.0225</b>	<b>.049</b>	<b>.06</b>	<b>.072</b>	<b>1.156</b>	<b>5104</b>	<b>900</b>	<b>W 2499</b>	<b>445</b>	<b>0</b>
<b>19/.044</b>	<b>.03</b>	<b>.052</b>	<b>.07</b>	<b>.08</b>	<b>1.42</b>	<b>6655</b>	<b>750</b>	<b>W 2501</b>	<b>520</b>	<b>0</b>
<b>19/.052</b>	<b>.04</b>	<b>.056</b>	<b>.08</b>	<b>.08</b>	<b>1.544</b>	<b>7927</b>	<b>750</b>	<b>W 2503</b>	<b>644</b>	<b>0</b>
<b>19/.064</b>	<b>.06</b>	<b>.062</b>	<b>.08</b>	<b>.104</b>	<b>1.736</b>	<b>10245</b>	<b>750</b>	<b>W 2505</b>	<b>837</b>	<b>0</b>
<b>19/.072</b>	<b>.075</b>	<b>.066</b>	<b>.08</b>	<b>.104</b>	<b>1.832</b>	<b>11528</b>	<b>600</b>	<b>W 2507</b>	<b>965</b>	<b>0</b>
<b>19/.083</b>	<b>.1</b>	<b>.072</b>	<b>.09</b>	<b>.128</b>	<b>2.034</b>	<b>14729</b>	<b>600</b>	<b>W 2509</b>	<b>1208</b>	<b>0</b>
<b>37/.064</b>	<b>.12</b>	<b>.075</b>	<b>.09</b>	<b>.128</b>	<b>2.112</b>	<b>15955</b>	<b>600</b>	<b>W 2511</b>	<b>1363</b>	<b>0</b>
<b>37/.072</b>	<b>.15</b>	<b>.08</b>	<b>.09</b>	<b>.128</b>	<b>2.244</b>	<b>17979</b>	<b>600</b>	<b>W 2513</b>	<b>1578</b>	<b>0</b>
<b>37/.083</b>	<b>.2</b>	<b>.088</b>	<b>.1</b>	<b>.16</b>	<b>2.53</b>	<b>23508</b>	<b>600</b>	<b>W 2515</b>	<b>1985</b>	<b>0</b>
<b>37/.093</b>	<b>.25</b>	<b>.095</b>	<b>.11</b>	<b>.16</b>	<b>2.718</b>	<b>27531</b>	<b>600</b>	<b>W 2517</b>	<b>2335</b>	<b>0</b>
<b>37/.103</b>	<b>.3</b>	<b>.102</b>	<b>.12</b>	<b>.192</b>	<b>2.97</b>	<b>33963</b>	<b>600</b>	<b>W 2519</b>	<b>2805</b>	<b>0</b>
<b>61/.093</b>	<b>.4</b>	<b>.114</b>	<b>.13</b>	<b>.192</b>	<b>3.27</b>	<b>41905</b>	<b>600</b>	<b>W 2521</b>	<b>3570</b>	<b>0</b>
<b>61/.103</b>	<b>.5</b>	<b>.121</b>	<b>.14</b>	<b>.192</b>	<b>3.498</b>	<b>48267</b>	<b>600</b>	<b>W 2523</b>	<b>4195</b>	<b>0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, 10% extra

*For current carrying capacities see pages 17 to 21.*



**"C.M.A." CABLES**

**TWIN CORE**

**LEAD COVERED, SINGLE WIRE ARMoured, AND  
SERVED OVERALL**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**2500 MEGOHM GRADE—CLASS No. 217.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Two cores, one red and one black, twisted together and wormed circular, taped, covered with a solid tube of lead, jute bedded and compounded, armoured with a layer of galvanized steel wires, and jute served and further compounded overall.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of Lead.	Diameter of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mille at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
1/.036	.001	.034	.04	.064	.672	1726	5000	W <b>2540</b>	126 0
1/.044	.0015	.034	.04	.064	.688	1817	5000	W <b>2542</b>	135 0
3/.029	.002	.036	.04	.072	.788	2308	4500	W <b>2544</b>	166 10
1/.064	.003	.036	.04	.072	.792	2340	5000	W <b>2546</b>	169 10
3/.036	.003	.038	.04	.072	.828	2496	4500	W <b>2548</b>	185 10
7/.029	.0045	.039	.05	.072	.87	2927	4500	W <b>2550</b>	212 10
7/.036	.007	.041	.05	.072	.936	3262	4000	W <b>2552</b>	243 0
7/.044	.01	.043	.05	.072	.992	3646	4000	W <b>2554</b>	287 0
7/.052	.0145	.046	.06	.072	1.072	4427	4000	W <b>2556</b>	345 0
7/.064	.0225	.049	.06	.072	1.156	5104	3500	W <b>2558</b>	462 0
19/.044	.03	.052	.07	.08	1.42	6655	3500	W <b>2560</b>	540 0
19/.052	.04	.056	.08	.08	1.544	7927	3000	W <b>2562</b>	669 0
19/.064	.06	.062	.08	.104	1.736	10245	3000	W <b>2564</b>	871 0
19/.072	.075	.066	.08	.104	1.832	11528	3000	W <b>2566</b>	1006 0
19/.083	.1	.072	.09	.128	2.034	14729	3000	W <b>2568</b>	1259 0
37/.064	.12	.075	.09	.128	2.112	15955	3000	W <b>2570</b>	1422 0
37/.072	.15	.08	.09	.128	2.244	17979	3000	W <b>2572</b>	1650 0
37/.083	.2	.088	.1	.16	2.53	23508	2500	W <b>2574</b>	2075 0
37/.093	.25	.095	.11	.16	2.718	27531	2500	W <b>2576</b>	2445 0
37/.103	.3	.102	.12	.192	2.97	33963	2500	W <b>2578</b>	2935 0
61/.093	.4	.114	.13	.192	3.27	41905	2500	W <b>2580</b>	3750 0
61/.103	.5	.121	.14	.192	3.498	48267	2500	W <b>2582</b>	4410 0

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

**S.E.C.****IRELLI & GENERAL****C.M.A.**
 Regd. Trade  
 Mark (No.  
 422219/20/21).
**"C.M.A." CABLES****THREE CORE****BRAIDED****600 MEGOHM GRADE—CLASS No. 121.**
**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Three cores twisted together, wormed circular, taped, braided and compounded.

No. and diameter of conductors.	Nominal area.	Thickness of Insulation.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	ins.	ins.	lb.	Megohms.		£	s.
<b>1/.036</b>	<b>.001</b>	.034	.327	166	2000	W <b>2591</b>	<b>55</b>	<b>0</b>
<b>1/.044</b>	<b>.0015</b>	.034	.344	196	2000	W <b>2593</b>	<b>62</b>	<b>0</b>
<b>3/.029</b>	<b>.002</b>	.036	.392	270	1250	W <b>2595</b>	<b>77</b>	<b>10</b>
<b>1/.064</b>	<b>.003</b>	.036	.396	307	2000	W <b>2597</b>	<b>81</b>	<b>10</b>
<b>3/.036</b>	<b>.003</b>	.038	.435	347	1250	W <b>2599</b>	<b>93</b>	<b>0</b>
<b>7/.029</b>	<b>.0045</b>	.039	.458	420	1250	W <b>2601</b>	<b>113</b>	<b>0</b>
<b>7/.036</b>	<b>.007</b>	.041	.529	564	900	W <b>2603</b>	<b>140</b>	<b>0</b>
<b>7/.044</b>	<b>.01</b>	.043	.624	755	900	W <b>2605</b>	<b>182</b>	<b>0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.689	984	900	W <b>2607</b>	<b>233</b>	<b>0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.779	1366	900	W <b>2609</b>	<b>309</b>	<b>0</b>
<b>19/.044</b>	<b>.03</b>	.052	.86	1664	750	W <b>2611</b>	<b>380</b>	<b>0</b>
<b>19/.052</b>	<b>.04</b>	.056	.983	2195	750	W <b>2613</b>	<b>503</b>	<b>0</b>
<b>19/.064</b>	<b>.06</b>	.062	1.138	3259	750	W <b>2615</b>	<b>683</b>	<b>0</b>
<b>19/.072</b>	<b>.075</b>	.066	1.241	4015	600	W <b>2617</b>	<b>830</b>	<b>0</b>
<b>19/.083</b>	<b>.1</b>	.072	1.405	5185	600	W <b>2619</b>	<b>1049</b>	<b>0</b>
<b>37/.064</b>	<b>.12</b>	.075	1.489	5891	600	W <b>2621</b>	<b>1215</b>	<b>0</b>
<b>37/.072</b>	<b>.15</b>	.08	1.631	7291	600	W <b>2623</b>	<b>1477</b>	<b>0</b>
<b>37/.083</b>	<b>.2</b>	.088	1.848	9542	600	W <b>2625</b>	<b>1880</b>	<b>0</b>
<b>37/.093</b>	<b>.25</b>	.095	2.029	11760	600	W <b>2627</b>	<b>2280</b>	<b>0</b>
<b>37/.103</b>	<b>.3</b>	.102	2.21	14257	600	W <b>2629</b>	<b>2730</b>	<b>0</b>
<b>61/.093</b>	<b>.4</b>	.114	2.511	19051	600	W <b>2631</b>	<b>3630</b>	<b>0</b>
<b>61/.103</b>	<b>.5</b>	.121	2.734	23072	600	W <b>2633</b>	<b>4360</b>	<b>0</b>

 Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10%** extra.

*For current carrying capacities see pages 17 to 21.*

**“C.M.A.” CABLES**

**THREE CORE**

**BRAIDED**



**C.M.A.**

**2500 MEGOHM GRADE—CLASS No. 221.**

Regd. Trade  
Mark (No.  
422219/20/21).

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Three cores twisted together, wormed circular, taped, braided and compounded.

No. and diameter of conductors.	Nominal area.	Thickness of Insulation.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	ins.	ins.	lb.	Megohms.		£	s.
1/.036	.001	.034	.327	166	5000	W 2650	59	0
1/.044	.0015	.034	.344	196	5000	W 2652	66	10
3/.029	.002	.036	.392	270	4500	W 2654	83	10
1/.064	.003	.036	.396	307	5000	W 2656	87	10
3/.036	.003	.038	.435	347	4500	W 2658	100	0
7/.029	.0045	.039	.458	420	4500	W 2660	121	10
7/.036	.007	.041	.529	564	4000	W 2662	150	0
7/.044	.01	.043	.624	755	4000	W 2664	196	0
7/.052	.0145	.046	.689	984	4000	W 2666	251	0
7/.064	.0225	.049	.779	1366	3500	W 2668	333	0
19/.044	.03	.052	.86	1664	3500	W 2670	405	0
19/.052	.04	.056	.983	2195	3000	W 2672	540	0
19/.064	.06	.062	1.138	3259	3000	W 2674	734	0
19/.072	.075	.066	1.241	4015	3000	W 2676	892	0
19/.083	.1	.072	1.405	5185	3000	W 2678	1125	0
37/.064	.12	.075	1.489	5891	3000	W 2680	1305	0
37/.072	.15	.08	1.631	7291	3000	W 2682	1585	0
37/.083	.2	.088	1.848	9542	2500	W 2684	2015	0
37/.093	.25	.095	2.029	11760	2500	W 2686	2445	0
37/.103	.3	.102	2.21	14257	2500	W 2688	2930	0
61/.093	.4	.114	2.511	19051	2500	W 2690	3895	0
61/.103	.5	.121	2.734	23072	2500	W 2692	4680	0

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

**S.E.C.****IRELLI & GENERAL****C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**“C.M.A.” CABLES****THREE CORE****LEAD COVERED****600 MEGOHM GRADE—CLASS No. 123.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Three cores twisted and wormed circular, taped, and covered with a solid tube of lead.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insula-tion.	Thick-ness of Lead.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.034	.05	.382	887	2000	W <b>2701</b>	<b>67 10</b>
<b>1/.044</b>	<b>.0015</b>	.034	.05	.399	953	2000	W <b>2703</b>	<b>75 10</b>
<b>3/.029</b>	<b>.002</b>	.036	.05	.447	1092	1250	W <b>2705</b>	<b>94 0</b>
<b>1/.064</b>	<b>.003</b>	.036	.05	.451	1131	2000	W <b>2707</b>	<b>97 10</b>
<b>3/.036</b>	<b>.003</b>	.038	.05	.49	1254	1250	W <b>2709</b>	<b>111 10</b>
<b>7/.029</b>	<b>.0045</b>	.039	.06	.533	1613	1250	W <b>2711</b>	<b>138 10</b>
<b>7/.036</b>	<b>.007</b>	.041	.06	.604	1887	900	W <b>2713</b>	<b>169 0</b>
<b>7/.044</b>	<b>.01</b>	.043	.07	.684	2520	900	W <b>2715</b>	<b>222 0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.07	.749	2940	900	W <b>2717</b>	<b>275 0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.07	.839	3584	900	W <b>2719</b>	<b>357 0</b>
<b>19/.044</b>	<b>.03</b>	.052	.08	.94	4406	750	W <b>2721</b>	<b>440 0</b>
<b>19/.052</b>	<b>.04</b>	.056	.09	1.063	5874	750	W <b>2723</b>	<b>588 0</b>
<b>19/.064</b>	<b>.06</b>	.062	.09	1.218	7448	750	W <b>2725</b>	<b>782 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.09	1.321	8590	600	W <b>2727</b>	<b>939 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.10	1.485	10976	600	W <b>2729</b>	<b>1193 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.10	1.569	12040	600	W <b>2731</b>	<b>1369 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.10	1.711	14045	600	W <b>2733</b>	<b>1648 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.11	1.948	18054	600	W <b>2735</b>	<b>2100 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.12	2.149	22098	600	W <b>2737</b>	<b>2525 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.13	2.35	26572	600	W <b>2739</b>	<b>3020 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.14	2.671	34462	600	W <b>2741</b>	<b>4005 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.15	2.914	41171	600	W <b>2743</b>	<b>4800 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

**“C.M.A.” CABLES**

**THREE CORE**

**LEAD COVERED**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**2500 MEGOHM GRADE—CLASS No. 223.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and **taped**. Three cores, twisted and wormed circular, taped, and covered with a solid tube of lead.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of Lead.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.034	.05	.382	887	5000	W <b>2760</b>	<b>71 10</b>
<b>1/.044</b>	<b>.0015</b>	.034	.05	.399	953	5000	W <b>2762</b>	<b>80 0</b>
<b>3/.029</b>	<b>.002</b>	.036	.05	.447	1092	4500	W <b>2764</b>	<b>100 0</b>
<b>1/.064</b>	<b>.003</b>	.036	.05	.451	1131	5000	W <b>2766</b>	<b>103 10</b>
<b>3/.036</b>	<b>.003</b>	.038	.05	.49	1254	4500	W <b>2768</b>	<b>118 10</b>
<b>7/.029</b>	<b>.0045</b>	.039	.06	.533	1613	4500	W <b>2770</b>	<b>147 0</b>
<b>7/.036</b>	<b>.007</b>	.041	.06	.604	1887	4000	W <b>2772</b>	<b>179 0</b>
<b>7/.044</b>	<b>.01</b>	.043	.07	.684	2520	4000	W <b>2774</b>	<b>236 0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.07	.749	2940	4000	W <b>2776</b>	<b>293 0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.07	.839	3584	3500	W <b>2778</b>	<b>381 0</b>
<b>19/.044</b>	<b>.03</b>	.052	.08	.94	4406	3500	W <b>2780</b>	<b>470 0</b>
<b>19/.052</b>	<b>.04</b>	.056	.09	1.063	5874	3000	W <b>2782</b>	<b>625 0</b>
<b>19/.064</b>	<b>.06</b>	.062	.09	1.218	7448	3000	W <b>2784</b>	<b>833 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.09	1.321	8590	3000	W <b>2786</b>	<b>1001 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.10	1.485	10976	3000	W <b>2788</b>	<b>1269 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.10	1.569	12040	3000	W <b>2790</b>	<b>1459 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.10	1.711	14045	3000	W <b>2792</b>	<b>1756 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.11	1.948	18054	2500	W <b>2794</b>	<b>2235 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.12	2.149	22098	2500	W <b>2796</b>	<b>2690 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.13	2.35	26572	2500	W <b>2798</b>	<b>3220 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.14	2.671	34462	2500	W <b>2800</b>	<b>4270 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.15	2.914	41171	2500	W <b>2802</b>	<b>5120 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



# **“C.M.A.” CABLES**

## **THREE CORE (NO LEAD)**

**JUTE BEDDED AND SINGLE WIRE ARMoured**

**(ARMOURING LEFT BARE)**

**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**600 MEGOHM GRADE—CLASS No. 124.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Three cores, twisted together and wormed circular, taped, jute bedded and compounded, and armoured with a layer of galvanized steel wires.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insula-tion.	Diam. of Armour-ing Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.034	.064	.49	762	2000	W <b>2811</b>	<b>83 10</b>
<b>1/.044</b>	<b>.0015</b>	.034	.064	.507	829	2000	W <b>2813</b>	<b>91 10</b>
<b>3/.029</b>	<b>.002</b>	.036	.064	.555	952	1250	W <b>2815</b>	<b>111 0</b>
<b>1/.064</b>	<b>.003</b>	.036	.064	.559	988	2000	W <b>2817</b>	<b>114 10</b>
<b>3/.036</b>	<b>.003</b>	.038	.064	.598	1097	1250	W <b>2819</b>	<b>129 0</b>
<b>7/.029</b>	<b>.0045</b>	.039	.072	.677	1377	1250	W <b>2821</b>	<b>160 0</b>
<b>7/.036</b>	<b>.007</b>	.041	.072	.748	1613	900	W <b>2823</b>	<b>194 0</b>
<b>7/.044</b>	<b>.01</b>	.043	.072	.808	1937	900	W <b>2825</b>	<b>238 0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.072	.873	2251	900	W <b>2827</b>	<b>291 0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.072	.963	2811	900	W <b>2829</b>	<b>372 0</b>
<b>19/.044</b>	<b>.03</b>	.052	.072	1.044	3278	750	W <b>2831</b>	<b>455 0</b>
<b>19/.052</b>	<b>.04</b>	.056	.08	1.243	4524	750	W <b>2833</b>	<b>606 0</b>
<b>19/.064</b>	<b>.06</b>	.062	.08	1.398	5701	750	W <b>2835</b>	<b>810 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.104	1.549	7347	600	W <b>2837</b>	<b>985 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.104	1.693	8960	600	W <b>2839</b>	<b>1229 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.128	1.825	10763	600	W <b>2841</b>	<b>1425 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.128	1.967	12667	600	W <b>2843</b>	<b>1708 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.16	2.248	16979	600	W <b>2845</b>	<b>2190 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.16	2.429	19093	600	W <b>2847</b>	<b>2620 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.192	2.674	24920	600	W <b>2849</b>	<b>3160 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.192	2.975	31304	600	W <b>2851</b>	<b>4115 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.192	3.198	36266	600	W <b>2853</b>	<b>4885 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

**"C.M.A." CABLES**

**THREE CORE (NO LEAD)**

**JUTE BEDDED AND SINGLE WIRE ARMoured**

**(ARMOURING LEFT BARE)**

**2500 MEGOHM GRADE—CLASS No. 224.**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Three cores, twisted together and wormed circular, taped, jute bedded and compounded, and armoured with a layer of galvanized steel wires.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insula-tion.	Diam. of Armour-ing. Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.034	.064	.49	762	5000	W <b>2870</b>	<b>87 10</b>
<b>1/.044</b>	<b>.0015</b>	.034	.064	.507	829	5000	W <b>2872</b>	<b>96 0</b>
<b>3/.029</b>	<b>.002</b>	.036	.064	.555	952	4500	W <b>2874</b>	<b>117 0</b>
<b>1/.064</b>	<b>.003</b>	.036	.064	.559	988	5000	W <b>2876</b>	<b>120 10</b>
<b>3/.036</b>	<b>.003</b>	.038	.064	.598	1097	4500	W <b>2878</b>	<b>136 0</b>
<b>7/.029</b>	<b>.0045</b>	.039	.072	.677	1377	4500	W <b>2880</b>	<b>168 10</b>
<b>7/.036</b>	<b>.007</b>	.041	.072	.748	1613	4000	W <b>2882</b>	<b>204 0</b>
<b>7/.044</b>	<b>.01</b>	.043	.072	.808	1937	4000	W <b>2884</b>	<b>252 0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.072	.873	2251	4000	W <b>2886</b>	<b>309 0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.072	.963	2811	3500	W <b>2888</b>	<b>396 0</b>
<b>19/.044</b>	<b>.03</b>	.052	.072	1.044	3278	3500	W <b>2890</b>	<b>485 0</b>
<b>19/.052</b>	<b>.04</b>	.056	.08	1.243	4524	3000	W <b>2892</b>	<b>643 0</b>
<b>19/.064</b>	<b>.06</b>	.062	.08	1.398	5701	3000	W <b>2894</b>	<b>861 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.104	1.549	7347	3000	W <b>2896</b>	<b>1047 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.104	1.693	8960	3000	W <b>2898</b>	<b>1305 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.128	1.825	10763	3000	W <b>2900</b>	<b>1515 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.128	1.967	12667	3000	W <b>2902</b>	<b>1816 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.16	2.248	16979	2500	W <b>2904</b>	<b>2325 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.16	2.429	19093	2500	W <b>2906</b>	<b>2785 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.192	2.674	24920	2500	W <b>2908</b>	<b>3360 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.192	2.975	31304	2500	W <b>2910</b>	<b>4380 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.192	3.198	36266	2500	W <b>2912</b>	<b>5205 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10%** extra.

*For current carrying capacities see pages 17 to 21.*



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

## “C.M.A.” CABLES

### THREE CORE (NO LEAD)

**JUTE BEDDED, SINGLE WIRE ARMoured, AND  
SERVED OVERALL**

**600 MEGOHM GRADE—CLASS No. 125.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Three cores, twisted together and wormed circular, taped, jute bedded and compounded, armoured with a layer of galvanized steel wires, jute served and further compounded overall.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Diam. of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./Ins.	Sq. Ins.	Ins.	Ins.	Ins.	lb.	Megohms.		£ s.
1/.036	.001	.034	.064	.61	935	2000	W 2921	103 10
1/.044	.0015	.034	.064	.627	1008	2000	W 2923	112 10
3/.029	.002	.036	.064	.675	1143	1250	W 2925	133 0
1/.064	.003	.036	.064	.679	1176	2000	W 2927	136 10
3/.036	.003	.038	.064	.718	1299	1250	W 2929	152 10
7/.029	.0045	.039	.072	.797	1602	1250	W 2931	186 0
7/.036	.007	.041	.072	.868	1854	900	W 2933	222 0
7/.044	.01	.043	.072	.928	2195	900	W 2935	268 0
7/.052	.0145	.046	.072	.993	2531	900	W 2937	323 0
7/.064	.0225	.049	.072	1.083	3125	900	W 2939	406 0
19/.044	.03	.052	.072	1.164	3620	750	W 2941	500 0
19/.052	.04	.056	.08	1.443	5354	750	W 2943	662 0
19/.064	.06	.062	.08	1.598	6631	750	W 2945	872 0
19/.072	.075	.066	.104	1.749	8378	600	W 2947	1053 0
19/.083	.1	.072	.104	1.893	10067	600	W 2949	1302 0
37/.064	.12	.075	.128	2.025	11973	600	W 2951	1503 0
37/.072	.15	.08	.128	2.167	13955	600	W 2953	1794 0
37/.083	.2	.088	.16	2.448	18446	600	W 2955	2285 0
37/.093	.25	.095	.16	2.629	21672	600	W 2957	2725 0
37/.103	.3	.102	.192	2.874	26656	600	W 2959	3275 0
61/.093	.4	.114	.192	3.175	33253	600	W 2961	4245 0
61/.103	.5	.121	.192	3.398	38360	600	W 2963	5025 0

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



# “C.M.A.” CABLES

## THREE CORE (NO LEAD)

**JUTE BEDDED, SINGLE WIRE ARMoured, AND  
SERVED OVERALL**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**2500 MEGOHM GRADE—CLASS No. 225.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Three cores, twisted together and wormed circular, taped, jute bedded and compounded, armoured with a layer of galvanized steel wires, jute served and further compounded overall.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insula-tion.	Diam. of Armour-ing Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.034	.064	.61	935	5000	W <b>2980</b>	<b>107 10</b>
<b>1/.044</b>	<b>.0015</b>	.034	.064	.627	1008	5000	W <b>2982</b>	<b>117 0</b>
<b>3/.029</b>	<b>.002</b>	.036	.064	.675	1143	4500	W <b>2984</b>	<b>139 0</b>
<b>1/.064</b>	<b>.003</b>	.036	.064	.679	1176	5000	W <b>2986</b>	<b>142 10</b>
<b>3/.036</b>	<b>.003</b>	.038	.064	.718	1299	4500	W <b>2988</b>	<b>159 10</b>
<b>7/.029</b>	<b>.0045</b>	.039	.072	.797	1602	4500	W <b>2990</b>	<b>194 10</b>
<b>7/.036</b>	<b>.007</b>	.041	.072	.868	1854	4000	W <b>2992</b>	<b>232 0</b>
<b>7/.044</b>	<b>.01</b>	.043	.072	.928	2195	4000	W <b>2994</b>	<b>282 0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.072	.993	2531	4000	W <b>2996</b>	<b>341 0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.072	1.083	3125	3500	W <b>2998</b>	<b>430 0</b>
<b>19/.044</b>	<b>.03</b>	.052	.072	1.164	3620	3500	W <b>3000</b>	<b>530 0</b>
<b>19/.052</b>	<b>.04</b>	.056	.08	1.443	5354	3000	W <b>3002</b>	<b>699 0</b>
<b>19/.064</b>	<b>.06</b>	.062	.08	1.598	6631	3000	W <b>3004</b>	<b>923 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.104	1.749	8378	3000	W <b>3006</b>	<b>1115 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.104	1.893	10067	3000	W <b>3008</b>	<b>1378 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.128	2.025	11973	3000	W <b>3010</b>	<b>1593 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.128	2.167	13955	3000	W <b>3012</b>	<b>1902 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.16	2.448	18446	2500	W <b>3014</b>	<b>2420 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.16	2.629	21672	2500	W <b>3016</b>	<b>2890 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.192	2.874	26656	2500	W <b>3018</b>	<b>3475 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.192	3.175	33253	2500	W <b>3020</b>	<b>4510 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.192	3.398	38360	2500	W <b>3022</b>	<b>5345 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

# “C.M.A.” CABLES

## THREE CORE

**LEAD COVERED AND SINGLE WIRE ARMoured**

**(ARMOURING LEFT BARE)**

**600 MEGOHM GRADE—CLASS No. 126.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Three cores twisted together and wormed circular, taped, covered with a solid tube of lead, jute bedded and compounded, and armoured with a layer of galvanized steel wires.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of Lead.	Diameter of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mille at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
1/.036	.001	.034	.05	.064	.59	1697	2000	W 3031	122 0
1/.044	.0015	.034	.05	.064	.607	1803	2000	W 3033	132 10
3/.029	.002	.036	.05	.072	.711	2296	1250	W 3035	167 0
1/.064	.003	.036	.05	.072	.715	2341	2000	W 3037	170 10
3/.036	.003	.038	.05	.072	.754	2553	1250	W 3039	189 0
7/.029	.0045	.039	.06	.072	.797	2968	1250	W 3041	219 10
7/.036	.007	.041	.06	.072	.868	3354	900	W 3043	258 0
7/.044	.01	.043	.07	.072	.948	4149	900	W 3045	319 0
7/.052	.0145	.046	.07	.072	1.013	4715	900	W 3047	380 0
7/.064	.0225	.049	.07	.08	1.199	5869	900	W 3049	502 0
19/.044	.03	.052	.08	.08	1.3	7123	750	W 3051	610 0
19/.052	.04	.056	.09	.104	1.471	9363	750	W 3053	798 0
19/.064	.06	.062	.09	.104	1.626	11424	750	W 3055	1024 0
19/.072	.075	.066	.09	.128	1.777	13765	600	W 3057	1215 0
19/.083	.1	.072	.1	.128	1.941	16688	600	W 3059	1508 0
37/.064	.12	.075	.1	.128	2.025	18054	600	W 3061	1715 0
37/.072	.15	.08	.1	.16	2.231	22041	600	W 3063	2060 0
37/.083	.2	.088	.11	.16	2.468	27014	600	W 3065	2560 0
37/.093	.25	.095	.12	.192	2.733	33768	600	W 3067	3080 0
37/.103	.3	.102	.13	.192	2.934	39267	600	W 3069	3620 0
61/.093	.4	.114	.14	.192	3.255	48865	600	W 3071	4690 0
61/.103	.5	.121	.15	.192	3.498	56918	600	W 3073	5555 0

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, 10% extra.

For current carrying capacities see pages 17 to 21.

**"C.M.A." CABLES**

**THREE CORE**

**LEAD COVERED AND SINGLE WIRE ARMoured**

**(ARMOURING LEFT BARE)**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**2500 MEGOHM GRADE—CLASS No. 226.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Three cores twisted together and wormed circular, taped, covered with a solid tube of lead, jute bedded and compounded, and armoured with a layer of galvanized steel wires.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of Lead.	Diameter of Armouring Wire.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mille at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.034	.05	.064	.59	1697	5000	W <b>3090</b>	<b>126 0</b>
<b>1/.044</b>	<b>.0015</b>	.034	.05	.064	.607	1803	5000	W <b>3092</b>	<b>137 0</b>
<b>3/.029</b>	<b>.002</b>	.036	.05	.072	.711	2296	4500	W <b>3094</b>	<b>173 0</b>
<b>1/.064</b>	<b>.003</b>	.036	.05	.072	.715	2341	5000	W <b>3096</b>	<b>176 10</b>
<b>3/.036</b>	<b>.003</b>	.038	.05	.072	.754	2553	4500	W <b>3098</b>	<b>186 0</b>
<b>7/.029</b>	<b>.0045</b>	.039	.06	.072	.797	2968	4500	W <b>3100</b>	<b>228 0</b>
<b>7/.036</b>	<b>.007</b>	.041	.06	.072	.868	3354	4000	W <b>3102</b>	<b>268 0</b>
<b>7/.044</b>	<b>.01</b>	.043	.07	.072	.948	4149	4000	W <b>3104</b>	<b>333 0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.07	.072	1.013	4715	4000	W <b>3106</b>	<b>388 0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.07	.08	1.199	5869	3500	W <b>3108</b>	<b>526 0</b>
<b>19/.044</b>	<b>.03</b>	.052	.08	.08	1.3	7123	3500	W <b>3110</b>	<b>640 0</b>
<b>19/.052</b>	<b>.04</b>	.056	.09	.104	1.471	9363	3000	W <b>3112</b>	<b>833 0</b>
<b>19/.064</b>	<b>.06</b>	.062	.09	.104	1.626	11424	3000	W <b>3114</b>	<b>1075 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.09	.128	1.777	13765	3000	W <b>3116</b>	<b>1277 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.1	.128	1.941	16688	3000	W <b>3118</b>	<b>1584 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.1	.128	2.025	18054	3000	W <b>3120</b>	<b>1805 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.1	.16	2.231	22041	3000	W <b>3122</b>	<b>2168 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.11	.16	2.468	27014	2500	W <b>3124</b>	<b>2695 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.12	.192	2.733	33768	2500	W <b>3126</b>	<b>3245 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.13	.192	2.934	39267	2500	W <b>3128</b>	<b>3820 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.14	.192	3.255	48865	2500	W <b>3130</b>	<b>4955 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.15	.192	3.498	56918	2500	W <b>3132</b>	<b>5875 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

## "C.M.A." CABLES

### THREE CORE

LEAD COVERED, SINGLE WIRE ARMoured, AND  
SERVED OVERALL

**600 MEGOHM GRADE—CLASS No. 127.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Three cores, twisted together and wormed circular, taped, covered with a solid tube of lead, jute bedded and compounded, armoured with a layer of galvanized steel wires, jute served and further compounded overall.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insula-tion.	Thick-ness of Lead.	Diameter of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.034	.05	.064	.71	1904	2000	W <b>3141</b>	<b>144 0</b>
<b>1/.044</b>	<b>.0015</b>	.034	.05	.064	.727	2106	2000	W <b>3143</b>	<b>155 0</b>
<b>3/.029</b>	<b>.002</b>	.036	.05	.072	.831	2542	1250	W <b>3145</b>	<b>192 10</b>
<b>1/.064</b>	<b>.003</b>	.036	.05	.072	.835	2582	2000	W <b>3147</b>	<b>196 10</b>
<b>3/.036</b>	<b>.003</b>	.038	.05	.072	.874	2811	1250	W <b>3149</b>	<b>215 10</b>
<b>7/.029</b>	<b>.0045</b>	.039	.06	.072	.917	3248	1250	W <b>3151</b>	<b>247 10</b>
<b>7/.036</b>	<b>.007</b>	.041	.06	.072	.988	3640	900	W <b>3153</b>	<b>288 0</b>
<b>7/.044</b>	<b>.01</b>	.043	.07	.072	1.068	4469	900	W <b>3155</b>	<b>352 0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.07	.072	1.133	5051	900	W <b>3157</b>	<b>415 0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.07	.08	1.399	6675	900	W <b>3159</b>	<b>551 0</b>
<b>19/.044</b>	<b>.03</b>	.052	.08	.08	1.5	7995	750	W <b>3161</b>	<b>660 0</b>
<b>19/.052</b>	<b>.04</b>	.056	.09	.104	1.671	10349	750	W <b>3163</b>	<b>854 0</b>
<b>19/.064</b>	<b>.06</b>	.062	.09	.104	1.826	12510	750	W <b>3165</b>	<b>1088 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.09	.128	1.977	14941	600	W <b>3167</b>	<b>1284 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.1	.128	2.141	17965	600	W <b>3169</b>	<b>1583 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.1	.128	2.225	19387	600	W <b>3171</b>	<b>1793 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.1	.16	2.431	23498	600	W <b>3173</b>	<b>2146 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.11	.16	2.668	28627	600	W <b>3175</b>	<b>2655 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.12	.192	2.933	35549	600	W <b>3177</b>	<b>3185 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.13	.192	3.134	41171	600	W <b>3179</b>	<b>3735 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.14	.192	3.455	50994	600	W <b>3181</b>	<b>4820 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.15	.192	3.698	59203	600	W <b>3183</b>	<b>5700 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, 10% extra.

*For current carrying capacities see pages 17 to 21.*

**"C.M.A." CABLES**

**THREE CORE**

**LEAD COVERED, SINGLE WIRE ARMoured, AND  
SERVED OVERALL**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**2500 MEGOHM GRADE—CLASS No. 227.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. Three cores, twisted together and wormed circular, taped, covered with a solid tube of lead, jute bedded and compounded, armoured with a layer of galvanized steel wires, jute served and further compounded overall.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of Lead.	Diameter of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mille at 60° F.	Cat. No.	Price per 1000 yards.
No./Ins.	Sq. Ins.	Ins.	Ins.	Ins.	Ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.034	.05	.064	.71	1904	5000	W <b>3200</b>	<b>148 0</b>
<b>1/.044</b>	<b>.0015</b>	.034	.05	.064	.727	2106	5000	W <b>3202</b>	<b>159 10</b>
<b>3/.029</b>	<b>.002</b>	.036	.05	.072	.831	2542	4500	W <b>3204</b>	<b>198 10</b>
<b>1/.064</b>	<b>.003</b>	.036	.05	.072	.835	2582	5000	W <b>3206</b>	<b>202 10</b>
<b>3/.036</b>	<b>.003</b>	.038	.05	.072	.874	2811	4500	W <b>3208</b>	<b>222 10</b>
<b>7/.029</b>	<b>.0045</b>	.039	.06	.072	.917	3248	4500	W <b>3210</b>	<b>256 0</b>
<b>7/.036</b>	<b>.007</b>	.041	.06	.072	.988	3640	4000	W <b>3212</b>	<b>298 0</b>
<b>7/.044</b>	<b>.01</b>	.043	.07	.072	1.068	4469	4000	W <b>3214</b>	<b>366 0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.07	.072	1.133	5051	4000	W <b>3216</b>	<b>433 0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.07	.08	1.399	6675	3500	W <b>3218</b>	<b>575 0</b>
<b>19/.044</b>	<b>.03</b>	.052	.08	.08	1.5	7995	3500	W <b>3220</b>	<b>690 0</b>
<b>19/.052</b>	<b>.04</b>	.056	.09	.104	1.671	10349	3000	W <b>3222</b>	<b>891 0</b>
<b>19/.064</b>	<b>.06</b>	.062	.09	.104	1.826	12510	3000	W <b>3224</b>	<b>1139 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.09	.128	1.977	14941	3000	W <b>3226</b>	<b>1346 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.1	.128	2.141	17965	3000	W <b>3228</b>	<b>1659 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.1	.128	2.225	19387	3000	W <b>3230</b>	<b>1883 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.1	.16	2.431	23498	3000	W <b>3232</b>	<b>2254 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.11	.16	2.668	28627	2500	W <b>3234</b>	<b>2790 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.12	.192	2.933	35549	2500	W <b>3236</b>	<b>3350 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.13	.192	3.134	41171	2500	W <b>3238</b>	<b>3935 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.14	.192	3.455	50994	2500	W <b>3240</b>	<b>5085 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.15	.192	3.698	59203	2500	W <b>3242</b>	<b>6020 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

## "C.M.A." CABLES

### SINGLE CORE

### BRAIDED

**660 VOLT GRADE—CLASS No. 301.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, braided and compounded.

No. and diameter of conductors.	Nominal area.	Thickness of Insulation.	Approx. overall diam.	Approx. weight per 1000 yds.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	ins.	ins.	lb.		£	s.
1/.036	.001	.055	.187	67	W <b>3260</b>	21	0
1/.044	.0015	.055	.195	76	W <b>3262</b>	23	10
3/.029	.002	.056	.217	95	W <b>3264</b>	28	10
1/.064	.003	.057	.221	109	W <b>3266</b>	30	0
3/.036	.003	.057	.237	121	W <b>3268</b>	34	0
7/.029	.0045	.058	.251	141	W <b>3270</b>	40	0
7/.036	.007	.059	.274	182	W <b>3272</b>	50	0
7/.044	.01	.06	.302	236	W <b>3274</b>	63	0
7/.052	.0145	.061	.328	303	W <b>3276</b>	82	0
7/.064	.0225	.062	.37	439	W <b>3278</b>	106	0
19/.044	.03	.062	.4	529	W <b>3280</b>	128	0
19/.052	.04	.063	.445	688	W <b>3282</b>	166	0
19/.064	.06	.065	.514	988	W <b>3284</b>	223	0
19/.072	.075	.066	.575	1228	W <b>3286</b>	265	0
19/.083	.1	.072	.645	1596	W <b>3288</b>	335	0
37/.064	.12	.075	.69	1820	W <b>3290</b>	392	0
37/.072	.15	.08	.756	2258	W <b>3292</b>	476	0
37/.083	.2	.088	.864	2931	W <b>3294</b>	605	0
37/.093	.25	.095	.957	3709	W <b>3296</b>	735	0
37/.103	.3	.102	1.046	4495	W <b>3298</b>	885	0
61/.093	.4	.114	1.196	5985	W <b>3300</b>	1180	0
61/.103	.5	.121	1.3	7249	W <b>3302</b>	1415	0
91/.093	.6	.125	1.408	8670	W <b>3304</b>	1705	0
91/.103	.75	.131	1.53	10503	W <b>3306</b>	2075	0
127/.093	.85	.135	1.614	11882	W <b>3308</b>	2330	0
127/.103	1	.141	1.756	14407	W <b>3310</b>	2815	0

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, 10% extra.

*For current carrying capacities see pages 17 to 21.*

# “C.M.A.” CABLES

## SINGLE CORE

### LEAD COVERED


**C.M.A.**

 Regd. Trade  
Mark (No.  
422219/20/21).

**660 VOLT GRADE—CLASS No. 303.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and covered with a solid tube of lead.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of Lead.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.		£ s.
1/.036	.001	.055	.05	.262	540	W <b>3320</b>	33 10
1/.044	.0015	.055	.05	.270	567	W <b>3322</b>	36 0
3/.029	.002	.056	.05	.290	632	W <b>3324</b>	42 10
1/.064	.003	.057	.05	.294	652	W <b>3326</b>	44 0
3/.036	.003	.057	.05	.316	691	W <b>3328</b>	48 0
7/.029	.0045	.058	.05	.327	736	W <b>3330</b>	54 10
7/.036	.007	.059	.06	.370	994	W <b>3332</b>	69 0
7/.044	.01	.06	.06	.396	1115	W <b>3334</b>	83 0
7/.052	.0145	.061	.06	.422	1250	W <b>3336</b>	103 0
7/.064	.0225	.062	.06	.460	1464	W <b>3338</b>	130 0
19/.044	.03	.062	.06	.488	1617	W <b>3340</b>	153 0
19/.052	.04	.063	.06	.530	1891	W <b>3342</b>	194 0
19/.064	.06	.065	.07	.614	2621	W <b>3344</b>	262 0
19/.072	.075	.066	.07	.656	2994	W <b>3346</b>	307 0
19/.083	.1	.072	.07	.723	3560	W <b>3348</b>	381 0
37/.064	.12	.075	.07	.762	3900	W <b>3350</b>	439 0
37/.072	.15	.08	.08	.848	4921	W <b>3352</b>	538 0
37/.083	.2	.088	.08	.969	5929	W <b>3354</b>	675 0
37/.093	.25	.095	.09	1.053	7394	W <b>3356</b>	830 0
37/.103	.3	.102	.09	1.137	8508	W <b>3358</b>	980 0
61/.093	.4	.114	.1	1.297	11196	W <b>3360</b>	1310 0
61/.103	.5	.121	.11	1.421	13567	W <b>3362</b>	1575 0
91/.093	.6	.125	.11	1.525	15489	W <b>3364</b>	1885 0
91/.103	.75	.131	.12	1.667	18678	W <b>3366</b>	2285 0
127/.093	.85	.135	.12	1.751	20502	W <b>3368</b>	2550 0
127/.103	1	.141	.12	1.893	23776	W <b>3370</b>	3055 0

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10%** extra.

*For current carrying capacities see pages 17 to 21.*

**S.E.C.****IRELLI & GENERAL****C.M.A.**
 Regd. Trade  
 Mark (No.  
 422219/20/21).

# “C.M.A.” CABLES

## SINGLE CORE (NO LEAD)

**JUTE BEDDED AND SINGLE WIRE ARMoured**
**(ARMOURING LEFT BARE)**
**660 VOLT GRADE—CLASS No. 304.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, jute bedded and compounded, armoured with a layer of galvanized steel wires.

No. and diameter of conductors.	Nominal area.	Thickness of Insulation.	Diameter of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.		£ s.
1/.036	.001	.055	.064	.37	526	W <b>3380</b>	46 10
1/.044	.0015	.055	.064	.378	534	W <b>3382</b>	49 10
3/.029	.002	.056	.064	.398	587	W <b>3384</b>	56 0
1/.064	.003	.057	.064	.402	600	W <b>3386</b>	58 0
3/.036	.003	.057	.064	.424	643	W <b>3388</b>	62 10
7/.029	.0045	.058	.064	.435	664	W <b>3390</b>	69 0
7/.036	.007	.059	.064	.458	741	W <b>3392</b>	80 0
7/.044	.01	.06	.064	.484	833	W <b>3394</b>	94 0
7/.052	.0145	.061	.064	.51	934	W <b>3396</b>	113 0
7/.064	.0225	.062	.064	.548	1120	W <b>3398</b>	142 0
19/.044	.03	.062	.064	.576	1275	W <b>3400</b>	167 0
19/.052	.04	.063	.072	.674	1691	W <b>3402</b>	213 0
19/.064	.06	.065	.072	.738	2082	W <b>3404</b>	279 0
19/.072	.075	.066	.072	.78	2409	W <b>3406</b>	323 0
19/.083	.1	.072	.072	.847	2907	W <b>3408</b>	399 0
37/.064	.12	.075	.072	.886	3175	W <b>3410</b>	456 0
37/.072	.15	.08	.072	.952	3751	W <b>3412</b>	545 0
37/.083	.2	.088	.072	1.053	4570	W <b>3414</b>	680 0
37/.093	.25	.095	.08	1.233	5926	W <b>3416</b>	845 0
37/.103	.3	.102	.08	1.317	6820	W <b>3418</b>	995 0
61/.093	.4	.114	.104	1.505	9318	W <b>3420</b>	1340 0
61/.103	.5	.121	.104	1.609	11016	W <b>3422</b>	1590 0
91/.093	.6	.125	.128	1.761	13550	W <b>3424</b>	1920 0
91/.103	.75	.131	.128	1.883	15735	W <b>3426</b>	2315 0
127/.093	.85	.135	.16	1.967	17392	W <b>3428</b>	2600 0
127/.103	1	.141	.16	2.173	21846	W <b>3430</b>	3135 0

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, 10% extra.

For current carrying capacities see pages 17 to 21.



**“C.M.A.” CABLES**

**SINGLE CORE (NO LEAD)**

**JUTE BEDDED, SINGLE WIRE ARMoured, AND  
SERVED OVERALL**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**660 VOLT GRADE—CLASS No. 305.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, jute bedded and compounded, armoured with a layer of galvanized steel wires, jute served and further compounded overall.

No. and diameter of conductors.	Nominal area.	Thickness of Insulation.	Diameter of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
No./Ins.	Sq. Ins.	Ins.	Ins.	Ins.	lb.		£ s.
1/.036	.001	.055	.064	.49	655	W <b>3440</b>	64 10
1/.044	.0015	.055	.064	.498	664	W <b>3442</b>	67 0
3/.029	.002	.056	.064	.518	722	W <b>3444</b>	75 0
1/.064	.003	.057	.064	.522	737	W <b>3446</b>	76 10
3/.036	.003	.057	.064	.544	784	W <b>3448</b>	82 0
7/.029	.0045	.058	.064	.555	811	W <b>3450</b>	89 0
7/.036	.007	.059	.064	.578	895	W <b>3452</b>	100 0
7/.044	.01	.06	.064	.604	992	W <b>3454</b>	116 0
7/.052	.0145	.061	.064	.63	1223	W <b>3456</b>	136 0
7/.064	.0225	.062	.064	.668	1426	W <b>3458</b>	166 0
19/.044	.03	.062	.064	.696	1595	W <b>3460</b>	193 0
19/.052	.04	.063	.072	.794	2059	W <b>3462</b>	242 0
19/.064	.06	.065	.072	.858	2477	W <b>3464</b>	311 0
19/.072	.075	.066	.072	.9	2826	W <b>3466</b>	357 0
19/.083	.1	.072	.072	.967	3357	W <b>3468</b>	435 0
37/.064	.12	.075	.072	1.006	3641	W <b>3470</b>	493 0
37/.072	.15	.08	.072	1.072	4252	W <b>3472</b>	585 0
37/.083	.2	.088	.072	1.173	5116	W <b>3474</b>	760 0
37/.093	.25	.095	.08	1.433	6560	W <b>3476</b>	910 0
37/.103	.3	.102	.08	1.517	7496	W <b>3478</b>	1065 0
61/.093	.4	.114	.104	1.705	10083	W <b>3480</b>	1420 0
61/.103	.5	.121	.104	1.809	11832	W <b>3482</b>	1675 0
91/.093	.6	.125	.128	1.961	14439	W <b>3484</b>	2010 0
91/.103	.75	.131	.128	2.083	15784	W <b>3486</b>	2410 0
127/.093	.85	.135	.16	2.167	19667	W <b>3488</b>	2700 0
127/.103	1	.141	.16	2.373	22921	W <b>3490</b>	3245 0

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

## "C.M.A." CABLES

### SINGLE CORE

#### LEAD COVERED AND SINGLE WIRE ARMoured

(ARMOURING LEFT BARE)

#### 660 VOLT GRADE—CLASS No. 306.

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, covered with a solid tube of lead, jute bedded and compounded, and armoured with a layer of galvanized steel wires.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of Lead.	Diam. of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	ins.	lb.		£ s.
1/.036	.001	.055	.05	.064	.47	1195	W <b>3500</b>	75 10
1/.044	.0015	.055	.05	.064	.478	1223	W <b>3502</b>	79 0
3/.029	.002	.056	.05	.064	.498	1327	W <b>3504</b>	87 10
1/.064	.003	.057	.05	.064	.502	1347	W <b>3506</b>	89 10
3/.036	.003	.057	.05	.064	.524	1422	W <b>3508</b>	95 10
7/.029	.0045	.058	.05	.064	.535	1469	W <b>3510</b>	103 0
7/.036	.007	.059	.06	.064	.578	1801	W <b>3512</b>	122 0
7/.044	.01	.06	.06	.064	.604	1961	W <b>3514</b>	140 0
7/.052	.0145	.061	.06	.072	.686	2402	W <b>3516</b>	169 0
7/.064	.0225	.062	.06	.072	.724	2718	W <b>3518</b>	204 0
19/.044	.03	.062	.06	.072	.752	2927	W <b>3520</b>	230 0
19/.052	.04	.063	.06	.072	.794	3298	W <b>3522</b>	276 0
19/.064	.06	.065	.07	.072	.878	4188	W <b>3524</b>	354 0
19/.072	.075	.066	.07	.072	.92	4631	W <b>3526</b>	404 0
19/.083	.1	.072	.07	.072	.987	5342	W <b>3528</b>	487 0
37/.064	.12	.075	.07	.072	1.026	5787	W <b>3530</b>	551 0
37/.072	.15	.08	.08	.08	1.208	7352	W <b>3532</b>	683 0
37/.083	.2	.088	.08	.08	1.309	8552	W <b>3534</b>	830 0
37/.093	.25	.095	.09	.104	1.461	10956	W <b>3536</b>	1035 0
37/.103	.3	.102	.09	.104	1.545	12383	W <b>3538</b>	1205 0
61/.093	.4	.114	.1	.104	1.705	15552	W <b>3540</b>	1570 0
61/.103	.5	.121	.11	.128	1.877	19242	W <b>3542</b>	1880 0
91/.093	.6	.125	.11	.128	1.981	21610	W <b>3544</b>	2210 0
91/.103	.75	.131	.12	.16	2.187	26850	W <b>3546</b>	2695 0
127/.093	.85	.135	.12	.16	2.271	28899	W <b>3548</b>	2980 0
127/.103	1	.141	.12	.16	2.413	32906	W <b>3550</b>	3510 0

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, 10% extra.

For current carrying capacities see pages 17 to 21.

# “C.M.A.” CABLES

## SINGLE CORE

**LEAD COVERED, SINGLE WIRE ARMoured, AND  
SERVED OVERALL**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**660 VOLT GRADE—CLASS No. 307.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, covered with a solid tube of lead, jute bedded and compounded, armoured with a layer of galvanized steel wires, jute served and further compounded overall.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of Lead.	Diam. of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	ins.	lb.		£ s.
<b>1/.036</b>	<b>.001</b>	.055	.05	.064	.59	1352	W <b>3560</b>	<b>96 10</b>
<b>1/.044</b>	<b>.0015</b>	.055	.05	.064	.598	1382	W <b>3562</b>	<b>100 10</b>
<b>3/.029</b>	<b>.002</b>	.056	.05	.064	.618	1491	W <b>3564</b>	<b>109 10</b>
<b>1/.064</b>	<b>.003</b>	.057	.05	.064	.622	1633	W <b>3566</b>	<b>111 10</b>
<b>3/.036</b>	<b>.003</b>	.057	.05	.064	.644	1717	W <b>3568</b>	<b>118 10</b>
<b>7/.029</b>	<b>.0045</b>	.058	.05	.064	.655	1770	W <b>3570</b>	<b>128 0</b>
<b>7/.036</b>	<b>.007</b>	.059	.06	.064	.698	2120	W <b>3572</b>	<b>147 0</b>
<b>7/.044</b>	<b>.01</b>	.06	.06	.064	.724	2299	W <b>3574</b>	<b>168 0</b>
<b>7/.052</b>	<b>.0145</b>	.061	.06	.072	.806	2770	W <b>3576</b>	<b>197 0</b>
<b>7/.064</b>	<b>.0225</b>	.062	.06	.072	.844	3109	W <b>3578</b>	<b>235 0</b>
<b>19/.044</b>	<b>.03</b>	.062	.06	.072	.872	3328	W <b>3580</b>	<b>260 0</b>
<b>19/.052</b>	<b>.04</b>	.063	.06	.072	.914	3717	W <b>3582</b>	<b>309 0</b>
<b>19/.064</b>	<b>.06</b>	.065	.07	.072	.998	4650	W <b>3584</b>	<b>390 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.07	.072	1.04	5118	W <b>3586</b>	<b>442 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.07	.072	1.107	5855	W <b>3588</b>	<b>527 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.07	.072	1.146	6320	W <b>3590</b>	<b>593 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.08	.08	1.408	7972	W <b>3592</b>	<b>744 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.08	.08	1.509	9220	W <b>3594</b>	<b>895 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.09	.104	1.661	11692	W <b>3596</b>	<b>1110 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.09	.104	1.745	13170	W <b>3598</b>	<b>1280 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.1	.104	1.905	16414	W <b>3600</b>	<b>1650 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.11	.128	2.077	20187	W <b>3602</b>	<b>1975 0</b>
<b>91/.093</b>	<b>.6</b>	.125	.11	.128	2.181	22596	W <b>3604</b>	<b>2305 0</b>
<b>91/.103</b>	<b>.75</b>	.131	.12	.16	2.387	27937	W <b>3606</b>	<b>2800 0</b>
<b>127/.093</b>	<b>.85</b>	.135	.12	.16	2.471	31074	W <b>3608</b>	<b>3090 0</b>
<b>127/.103</b>	<b>1</b>	.141	.12	.16	2.613	34101	W <b>3610</b>	<b>3625 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

**S.E.C.****PIRELLI GENERAL****C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

## “C.M.A.” CABLES

### TWIN CORE (CIRCULAR)

**BRAIDED****660 VOLT GRADE—CLASS No. 311.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and two cores, one red and one black, twisted together and wormed circular, taped, braided and compounded.

No. and diameter of conductors.	Nominal area.	Thickness of Insulation.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	lb.		£ s.
<b>1/.036</b>	<b>.001</b>	<b>.055</b>	<b>.393</b>	<b>210</b>	<b>W 3620</b>	<b>56 0</b>
<b>1/.044</b>	<b>.0015</b>	<b>.055</b>	<b>.409</b>	<b>235</b>	<b>W 3622</b>	<b>62 0</b>
<b>3/.029</b>	<b>.002</b>	<b>.056</b>	<b>.449</b>	<b>288</b>	<b>W 3624</b>	<b>74 10</b>
<b>1/.064</b>	<b>.003</b>	<b>.057</b>	<b>.457</b>	<b>318</b>	<b>W 3626</b>	<b>78 0</b>
<b>3/.036</b>	<b>.003</b>	<b>.057</b>	<b>.501</b>	<b>346</b>	<b>W 3628</b>	<b>87 0</b>
<b>7/.029</b>	<b>.0045</b>	<b>.058</b>	<b>.523</b>	<b>396</b>	<b>W 3630</b>	<b>102 0</b>
<b>7/.036</b>	<b>.007</b>	<b>.059</b>	<b>.604</b>	<b>502</b>	<b>W 3632</b>	<b>123 0</b>
<b>7/.044</b>	<b>.01</b>	<b>.060</b>	<b>.656</b>	<b>636</b>	<b>W 3634</b>	<b>154 0</b>
<b>7/.052</b>	<b>.0145</b>	<b>.061</b>	<b>.708</b>	<b>795</b>	<b>W 3636</b>	<b>193 0</b>
<b>7/.064</b>	<b>.0225</b>	<b>.062</b>	<b>.784</b>	<b>1061</b>	<b>W 3638</b>	<b>249 0</b>
<b>19/.044</b>	<b>.03</b>	<b>.062</b>	<b>.868</b>	<b>1258</b>	<b>W 3640</b>	<b>300 0</b>
<b>19/.052</b>	<b>.04</b>	<b>.063</b>	<b>.952</b>	<b>1609</b>	<b>W 3642</b>	<b>386 0</b>
<b>19/.064</b>	<b>.06</b>	<b>.065</b>	<b>1.08</b>	<b>2361</b>	<b>W 3644</b>	<b>515 0</b>
<b>19/.072</b>	<b>.075</b>	<b>.066</b>	<b>1.164</b>	<b>2894</b>	<b>W 3646</b>	<b>609 0</b>
<b>19/.083</b>	<b>.1</b>	<b>.072</b>	<b>1.298</b>	<b>3713</b>	<b>W 3648</b>	<b>766 0</b>
<b>37/.064</b>	<b>.12</b>	<b>.075</b>	<b>1.396</b>	<b>4214</b>	<b>W 3650</b>	<b>886 0</b>
<b>37/.072</b>	<b>.15</b>	<b>.080</b>	<b>1.528</b>	<b>5202</b>	<b>W 3652</b>	<b>1075 0</b>
<b>37/.083</b>	<b>.2</b>	<b>.088</b>	<b>1.73</b>	<b>6784</b>	<b>W 3654</b>	<b>1365 0</b>
<b>37/.093</b>	<b>.25</b>	<b>.095</b>	<b>1.898</b>	<b>8348</b>	<b>W 3656</b>	<b>1650 0</b>
<b>37/.103</b>	<b>.3</b>	<b>.102</b>	<b>2.066</b>	<b>10095</b>	<b>W 3658</b>	<b>1970 0</b>
<b>61/.093</b>	<b>.4</b>	<b>.114</b>	<b>2.346</b>	<b>13462</b>	<b>W 3660</b>	<b>2620 0</b>
<b>61/.103</b>	<b>.5</b>	<b>.121</b>	<b>2.554</b>	<b>16274</b>	<b>W 3662</b>	<b>3145 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

# **"C.M.A." CABLES**

## **TWIN CORE (CIRCULAR)**

### **LEAD COVERED**


**C.M.A.**

 Regd. Trade  
Mark (No.  
422219/20/21).

**660 VOLT GRADE—CLASS No. 313.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and two cores, one red and one black, twisted together and wormed circular, taped, and covered with a solid tube of lead.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of Lead.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.	
No./Ins.	Sq. Ins.	ins.	ins.	ins.	lb.		£	s
<b>1/.036</b>	<b>.001</b>	.055	.05	.448	1031	W <b>3680</b>	<b>73</b>	<b>0</b>
<b>1/.044</b>	<b>.0015</b>	.055	.05	.464	1087	W <b>3682</b>	<b>80</b>	<b>0</b>
<b>3/.029</b>	<b>.002</b>	.056	.05	.504	1225	W <b>3684</b>	<b>94</b>	<b>10</b>
<b>1/.064</b>	<b>.003</b>	.057	.05	.512	1269	W <b>3686</b>	<b>99</b>	<b>0</b>
<b>3/.036</b>	<b>.003</b>	.057	.05	.556	1355	W <b>3688</b>	<b>109</b>	<b>0</b>
<b>7/.029</b>	<b>.0045</b>	.058	.06	.598	1703	W <b>3690</b>	<b>132</b>	<b>0</b>
<b>7/.036</b>	<b>.007</b>	.059	.06	.644	1923	W <b>3692</b>	<b>154</b>	<b>0</b>
<b>7/.044</b>	<b>.01</b>	.060	.06	.696	2185	W <b>3694</b>	<b>187</b>	<b>0</b>
<b>7/.052</b>	<b>.0145</b>	.061	.07	.768	2803	W <b>3696</b>	<b>239</b>	<b>0</b>
<b>7/.064</b>	<b>.0225</b>	.062	.07	.844	3294	W <b>3698</b>	<b>301</b>	<b>0</b>
<b>19/.044</b>	<b>.03</b>	.062	.07	.908	3802	W <b>3700</b>	<b>360</b>	<b>0</b>
<b>19/.052</b>	<b>.04</b>	.063	.08	1.012	4711	W <b>3702</b>	<b>462</b>	<b>0</b>
<b>19/.064</b>	<b>.06</b>	.065	.08	1.14	5796	W <b>3704</b>	<b>602</b>	<b>0</b>
<b>19/.072</b>	<b>.075</b>	.066	.08	1.224	6624	W <b>3706</b>	<b>701</b>	<b>0</b>
<b>19/.083</b>	<b>.1</b>	.072	.09	1.378	8486	W <b>3708</b>	<b>887</b>	<b>0</b>
<b>37/.064</b>	<b>.12</b>	.075	.09	1.456	9303	W <b>3710</b>	<b>1017</b>	<b>0</b>
<b>37/.072</b>	<b>.15</b>	.080	.09	1.588	10792	W <b>3712</b>	<b>1219</b>	<b>0</b>
<b>37/.083</b>	<b>.2</b>	.088	.1	1.81	13905	W <b>3714</b>	<b>1550</b>	<b>0</b>
<b>37/.093</b>	<b>.25</b>	.095	.11	1.998	17096	W <b>3716</b>	<b>1870</b>	<b>0</b>
<b>37/.103</b>	<b>.3</b>	.102	.12	2.186	20608	W <b>3718</b>	<b>2240</b>	<b>0</b>
<b>61/.093</b>	<b>.4</b>	.114	.13	2.486	26712	W <b>3720</b>	<b>2975</b>	<b>0</b>
<b>61/.103</b>	<b>.5</b>	.121	.14	2.714	31920	W <b>3722</b>	<b>3545</b>	<b>0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

## “C.M.A.” CABLES

### TWIN CORE (NO LEAD)

**JUTE BEDDED, SINGLE WIRE ARMoured**

**(ARMOURING LEFT BARE)**

**660 VOLT GRADE—CLASS No. 314.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and two cores, one red and one black, twisted together and wormed circular, taped, jute bedded and compounded, and armoured with a layer of galvanized steel wires.

No. and diameter of conductors.	Nominal area.	Thickness of Insulation.	Diameter of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.		£ s.
<b>1/.036</b>	<b>.001</b>	.055	.064	.556	894	W <b>3740</b>	<b>92 0</b>
<b>1/.044</b>	<b>.0015</b>	.055	.064	.572	952	W <b>3742</b>	<b>99 10</b>
<b>3/.029</b>	<b>.002</b>	.056	.072	.668	1248	W <b>3744</b>	<b>126 0</b>
<b>1/.064</b>	<b>.003</b>	.057	.072	.676	1279	W <b>3746</b>	<b>130 0</b>
<b>3/.036</b>	<b>.003</b>	.057	.072	.72	1394	W <b>3748</b>	<b>141 0</b>
<b>7/.029</b>	<b>.0045</b>	.058	.072	.742	1445	W <b>3750</b>	<b>156 10</b>
<b>7/.036</b>	<b>.007</b>	.059	.072	.788	1642	W <b>3752</b>	<b>179 0</b>
<b>7/.044</b>	<b>.01</b>	.06	.072	.84	1862	W <b>3754</b>	<b>211 0</b>
<b>7/.052</b>	<b>.0145</b>	.061	.072	.892	2106	W <b>3756</b>	<b>258 0</b>
<b>7/.064</b>	<b>.0225</b>	.062	.072	.968	2508	W <b>3758</b>	<b>319 0</b>
<b>19/.044</b>	<b>.03</b>	.062	.072	1.032	2842	W <b>3760</b>	<b>380 0</b>
<b>19/.052</b>	<b>.04</b>	.063	.08	1.212	3680	W <b>3762</b>	<b>493 0</b>
<b>19/.064</b>	<b>.06</b>	.065	.08	1.34	4688	W <b>3764</b>	<b>639 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.104	1.472	6040	W <b>3766</b>	<b>763 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.104	1.606	7298	W <b>3768</b>	<b>939 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.104	1.684	7980	W <b>3770</b>	<b>1068 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.128	1.864	10221	W <b>3772</b>	<b>1305 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.16	2.13	13787	W <b>3774</b>	<b>1670 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.16	2.298	16004	W <b>3776</b>	<b>1985 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.16	2.466	18424	W <b>3778</b>	<b>2340 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.192	2.81	25095	W <b>3780</b>	<b>3090 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.192	3.018	28837	W <b>3782</b>	<b>3665 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

# **"C.M.A." CABLES**

## **TWIN CORE (NO LEAD)**

**JUTE BEDDED, SINGLE WIRE ARMoured, AND  
SERVED OVERALL**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**660 VOLT GRADE—CLASS No. 315.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and two cores, one red and one black, twisted together and wormed circular, taped, jute bedded and compounded, and armoured with a layer of galvanized steel wires, jute served and further compounded overall.

No. and diameter of conductors.	Nominal area.	Thickness of Insulation.	Diameter of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.		£ s.
<b>1/.036</b>	<b>.001</b>	.055	.064	.676	1204	W <b>3800</b>	<b>116 0</b>
<b>1/.044</b>	<b>.0015</b>	.055	.064	.692	1271	W <b>3802</b>	<b>124 10</b>
<b>3/.029</b>	<b>.002</b>	.056	.072	.788	1613	W <b>3804</b>	<b>154 10</b>
<b>1/.064</b>	<b>.003</b>	.057	.072	.796	1646	W <b>3806</b>	<b>159 0</b>
<b>3/.036</b>	<b>.003</b>	.057	.072	.84	1784	W <b>3808</b>	<b>171 10</b>
<b>7/.029</b>	<b>.0045</b>	.058	.072	.862	1844	W <b>3810</b>	<b>188 0</b>
<b>7/.036</b>	<b>.007</b>	.059	.072	.908	2061	W <b>3812</b>	<b>213 0</b>
<b>7/.044</b>	<b>.01</b>	.06	.072	.96	2309	W <b>3814</b>	<b>247 0</b>
<b>7/.052</b>	<b>.0145</b>	.061	.072	1.012	2578	W <b>3816</b>	<b>295 0</b>
<b>7/.064</b>	<b>.0225</b>	.062	.072	1.088	3012	W <b>3818</b>	<b>359 0</b>
<b>19/.044</b>	<b>.03</b>	.062	.072	1.152	3372	W <b>3820</b>	<b>430 0</b>
<b>19/.052</b>	<b>.04</b>	.063	.08	1.412	4303	W <b>3822</b>	<b>551 0</b>
<b>19/.064</b>	<b>.06</b>	.065	.08	1.54	5367	W <b>3824</b>	<b>702 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.104	1.672	6787	W <b>3826</b>	<b>833 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.104	1.806	8112	W <b>3828</b>	<b>1015 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.104	1.884	8829	W <b>3830</b>	<b>1147 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.128	2.064	11172	W <b>3832</b>	<b>1392 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.16	2.33	14840	W <b>3834</b>	<b>1770 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.16	2.498	17142	W <b>3836</b>	<b>2095 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.16	2.666	19647	W <b>3838</b>	<b>2455 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.192	3.01	26476	W <b>3840</b>	<b>3325 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.192	3.218	30314	W <b>3842</b>	<b>3810 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10%** extra.

*For current carrying capacities see pages 17 to 21.*



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

# “C.M.A.” CABLES

## TWIN CORE

**LEAD COVERED AND SINGLE WIRE ARMoured**

**(ARMOURING LEFT BARE)**

**660 VOLT GRADE—CLASS No. 316.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and two cores, one red and one black, twisted together and wormed circular, taped, covered with a solid tube of lead, jute bedded and compounded, and armoured with a layer of galvanized steel wires.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insula-tion.	Thick-ness of Lead.	Diam. of Armour-ing Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	ins.	ins.	ins.	ins.	lb.		£	s.
<b>1/.036</b>	<b>.001</b>	.055	.05	.072	.712	2233	W <b>3860</b>	<b>148</b>	<b>0</b>
<b>1/.044</b>	<b>.0015</b>	.055	.05	.072	.728	2341	W <b>3862</b>	<b>154</b>	<b>10</b>
<b>3/.029</b>	<b>.002</b>	.056	.05	.072	.768	2534	W <b>3864</b>	<b>173</b>	<b>10</b>
<b>1/.064</b>	<b>.003</b>	.057	.05	.072	.776	2624	W <b>3866</b>	<b>179</b>	<b>0</b>
<b>3/.036</b>	<b>.003</b>	.057	.05	.072	.82	2763	W <b>3868</b>	<b>192</b>	<b>10</b>
<b>7/.029</b>	<b>.0045</b>	.058	.06	.072	.862	3168	W <b>3870</b>	<b>219</b>	<b>0</b>
<b>7/.036</b>	<b>.007</b>	.059	.06	.072	.908	3502	W <b>3872</b>	<b>247</b>	<b>0</b>
<b>7/.044</b>	<b>.01</b>	.06	.06	.072	.96	3860	W <b>3874</b>	<b>287</b>	<b>0</b>
<b>7/.052</b>	<b>.0145</b>	.061	.07	.072	1.032	4632	W <b>3876</b>	<b>346</b>	<b>0</b>
<b>7/.064</b>	<b>.0225</b>	.062	.07	.08	1.204	5621	W <b>3878</b>	<b>447</b>	<b>0</b>
<b>19/.044</b>	<b>.03</b>	.062	.07	.08	1.268	6269	W <b>3880</b>	<b>510</b>	<b>0</b>
<b>19/.052</b>	<b>.04</b>	.063	.08	.08	1.372	7423	W <b>3882</b>	<b>633</b>	<b>0</b>
<b>19/.064</b>	<b>.06</b>	.065	.08	.104	1.548	9500	W <b>3884</b>	<b>821</b>	<b>0</b>
<b>19/.072</b>	<b>.075</b>	.066	.08	.104	1.632	10696	W <b>3886</b>	<b>934</b>	<b>0</b>
<b>19/.083</b>	<b>.1</b>	.072	.09	.128	1.834	13812	W <b>3888</b>	<b>1178</b>	<b>0</b>
<b>37/.064</b>	<b>.12</b>	.075	.09	.128	1.912	15005	W <b>3890</b>	<b>1338</b>	<b>0</b>
<b>37/.072</b>	<b>.15</b>	.08	.09	.128	2.044	16955	W <b>3892</b>	<b>1560</b>	<b>0</b>
<b>37/.083</b>	<b>.2</b>	.088	.1	.16	2.33	22359	W <b>3894</b>	<b>1975</b>	<b>0</b>
<b>37/.093</b>	<b>.25</b>	.095	.11	.16	2.518	26288	W <b>3896</b>	<b>2335</b>	<b>0</b>
<b>37/.103</b>	<b>.3</b>	.102	.12	.192	2.77	32599	W <b>3898</b>	<b>2815</b>	<b>0</b>
<b>61/.093</b>	<b>.4</b>	.114	.13	.192	3.07	40398	W <b>3900</b>	<b>3610</b>	<b>0</b>
<b>61/.103</b>	<b>.5</b>	.121	.14	.192	3.298	46657	W <b>3902</b>	<b>4255</b>	<b>0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21*



**“C.M.A.” CABLES**

**TWIN CORE**

**LEAD COVERED, SINGLE WIRE ARMoured, AND  
SERVED OVERALL**



**C.M.A.**

Regd. Trade  
Mark (No.  
42: 219/20/21).

**660 VOLT GRADE—CLASS No. 317.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and two cores, one red and one black, twisted together and wormed circular, taped, covered with a solid tube of lead, jute bedded and compounded, and armoured with a layer of galvanized steel wires, jute served and further compounded overall.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of Lead.	Diam. of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	ins.	lb.		£ s.
<b>1/.036</b>	<b>.001</b>	.055	.05	.072	.832	2619	W <b>3920</b>	<b>175 10</b>
<b>1/.044</b>	<b>.0015</b>	.055	.05	.072	.848	2740	W <b>3922</b>	<b>184 10</b>
<b>3/.029</b>	<b>.002</b>	.056	.05	.072	.888	2947	W <b>3924</b>	<b>205 10</b>
<b>1/.064</b>	<b>.003</b>	.057	.05	.072	.896	3039	W <b>3926</b>	<b>211 0</b>
<b>3/.036</b>	<b>.003</b>	.057	.05	.072	.94	3099	W <b>3928</b>	<b>226 0</b>
<b>7/.029</b>	<b>.0045</b>	.058	.06	.072	.982	3622	W <b>3930</b>	<b>254 0</b>
<b>7/.036</b>	<b>.007</b>	.059	.06	.072	1.028	3984	W <b>3932</b>	<b>284 0</b>
<b>7/.044</b>	<b>.01</b>	.06	.06	.072	1.08	4371	W <b>3934</b>	<b>326 0</b>
<b>7/.052</b>	<b>.0145</b>	.061	.07	.072	1.152	5170	W <b>3936</b>	<b>427 0</b>
<b>7/.064</b>	<b>.0225</b>	.062	.07	.08	1.404	6238	W <b>3938</b>	<b>502 0</b>
<b>19/.044</b>	<b>.03</b>	.062	.07	.08	1.468	6910	W <b>3940</b>	<b>570 0</b>
<b>19/.052</b>	<b>.04</b>	.063	.08	.08	1.572	8111	W <b>3942</b>	<b>694 0</b>
<b>19/.064</b>	<b>.06</b>	.065	.08	.104	1.748	10275	W <b>3944</b>	<b>889 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.08	.104	1.832	11528	W <b>3946</b>	<b>1006 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.09	.128	2.034	14729	W <b>3948</b>	<b>1259 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.09	.128	2.112	15955	W <b>3950</b>	<b>1422 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.09	.128	2.244	17979	W <b>3952</b>	<b>1650 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.1	.16	2.53	23508	W <b>3954</b>	<b>2075 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.11	.16	2.718	27531	W <b>3956</b>	<b>2445 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.12	.192	2.97	33963	W <b>3958</b>	<b>2935 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.13	.192	3.27	41905	W <b>3960</b>	<b>3750 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.14	.192	3.498	48267	W <b>3962</b>	<b>4410 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

# “C.M.A.” CABLES

## THREE CORE

### BRAIDED

**660 VOLT GRADE—CLASS No. 321.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and three cores, twisted together and wormed circular, taped, braided and compounded.

No. and diameter of conductors.	Nominal area.	Thickness of Insulation.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	lb.		£ s.
<b>1/.036</b>	<b>.001</b>	.055	.417	267	W <b>3980</b>	<b>77 10</b>
<b>1/.044</b>	<b>.0015</b>	.055	.435	299	W <b>3982</b>	<b>86 0</b>
<b>3/.029</b>	<b>.002</b>	.056	.478	368	W <b>3984</b>	<b>103 10</b>
<b>1/.064</b>	<b>.003</b>	.057	.486	411	W <b>3986</b>	<b>109 0</b>
<b>3/.036</b>	<b>.003</b>	.057	.533	448	W <b>3988</b>	<b>123 10</b>
<b>7/.029</b>	<b>.0045</b>	.058	.557	516	W <b>3990</b>	<b>143 10</b>
<b>7/.036</b>	<b>.007</b>	.059	.642	664	W <b>3992</b>	<b>173 0</b>
<b>7/.044</b>	<b>.01</b>	.06	.697	849	W <b>3994</b>	<b>217 0</b>
<b>7/.052</b>	<b>.0145</b>	.061	.753	1067	W <b>3996</b>	<b>280 0</b>
<b>7/.064</b>	<b>.0225</b>	.062	.835	1434	W <b>3998</b>	<b>359 0</b>
<b>19/.044</b>	<b>.03</b>	.062	.923	1747	W <b>4000</b>	<b>435 0</b>
<b>19/.052</b>	<b>.04</b>	.063	1.014	2307	W <b>4002</b>	<b>565 0</b>
<b>19/.064</b>	<b>.06</b>	.065	1.151	3270	W <b>4004</b>	<b>757 0</b>
<b>19/.072</b>	<b>.075</b>	.066	1.241	4015	W <b>4006</b>	<b>892 0</b>
<b>19/.083</b>	<b>.1</b>	.072	1.405	5186	W <b>4008</b>	<b>1125 0</b>
<b>37/.064</b>	<b>.12</b>	.075	1.489	5891	W <b>4010</b>	<b>1305 0</b>
<b>37/.072</b>	<b>.15</b>	.08	1.631	7291	W <b>4012</b>	<b>1585 0</b>
<b>37/.083</b>	<b>.2</b>	.088	1.848	9542	W <b>4014</b>	<b>2015 0</b>
<b>37/.093</b>	<b>.25</b>	.095	2.029	11760	W <b>4016</b>	<b>2445 0</b>
<b>37/.103</b>	<b>.3</b>	.102	2.21	14258	W <b>4018</b>	<b>2930 0</b>
<b>61/.093</b>	<b>.4</b>	.114	2.511	19051	W <b>4020</b>	<b>3895 0</b>
<b>61/.103</b>	<b>.5</b>	.121	2.734	23072	W <b>4022</b>	<b>4680 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10%** extra.

*For current carrying capacities see pages 17 to 21.*

# **"C.M.A." CABLES**

## **THREE CORE**

### **LEAD COVERED**

**660 VOLT GRADE—CLASS No. 323.**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and three cores twisted together and wormed circular, taped, and covered with a solid tube of lead.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of Lead.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.		£	s.
<b>1/.036</b>	<b>.001</b>	.055	.06	.492	1355	W <b>4040</b>	<b>99</b>	<b>0</b>
<b>1/.044</b>	<b>.0015</b>	.055	.06	.51	1434	W <b>4042</b>	<b>110</b>	<b>0</b>
<b>3/.029</b>	<b>.002</b>	.056	.06	.553	1613	W <b>4044</b>	<b>130</b>	<b>0</b>
<b>1/.064</b>	<b>.003</b>	.057	.06	.561	1669	W <b>4046</b>	<b>136</b>	<b>10</b>
<b>3/.036</b>	<b>.003</b>	.057	.06	.608	1781	W <b>4048</b>	<b>150</b>	<b>10</b>
<b>7/.029</b>	<b>.0045</b>	.058	.07	.652	2190	W <b>4050</b>	<b>181</b>	<b>10</b>
<b>7/.036</b>	<b>.007</b>	.059	.07	.702	2486	W <b>4052</b>	<b>215</b>	<b>0</b>
<b>7/.044</b>	<b>.01</b>	.06	.08	.777	3170	W <b>4054</b>	<b>268</b>	<b>0</b>
<b>7/.052</b>	<b>.0145</b>	.061	.08	.833	3573	W <b>4056</b>	<b>335</b>	<b>0</b>
<b>7/.064</b>	<b>.0225</b>	.062	.08	.915	4222	W <b>4058</b>	<b>424</b>	<b>0</b>
<b>19/.044</b>	<b>.03</b>	.062	.08	.983	4865	W <b>4060</b>	<b>510</b>	<b>0</b>
<b>19/.052</b>	<b>.04</b>	.063	.09	1.094	6014	W <b>4062</b>	<b>651</b>	<b>0</b>
<b>19/.064</b>	<b>.06</b>	.065	.09	1.231	7470	W <b>4064</b>	<b>855</b>	<b>0</b>
<b>19/.072</b>	<b>.075</b>	.066	.09	1.321	8590	W <b>4066</b>	<b>1001</b>	<b>0</b>
<b>19/.083</b>	<b>.1</b>	.072	.1	1.485	10976	W <b>4068</b>	<b>1269</b>	<b>0</b>
<b>37/.064</b>	<b>.12</b>	.075	.1	1.569	12040	W <b>4070</b>	<b>1459</b>	<b>0</b>
<b>37/.072</b>	<b>.15</b>	.08	.1	1.711	14045	W <b>4072</b>	<b>1756</b>	<b>0</b>
<b>37/.083</b>	<b>.2</b>	.088	.11	1.948	18054	W <b>4074</b>	<b>2235</b>	<b>0</b>
<b>37/.093</b>	<b>.25</b>	.095	.12	2.149	22098	W <b>4076</b>	<b>2690</b>	<b>0</b>
<b>37/.103</b>	<b>.3</b>	.102	.13	2.35	26572	W <b>4078</b>	<b>3220</b>	<b>0</b>
<b>61/.093</b>	<b>.4</b>	.114	.14	2.671	34462	W <b>4080</b>	<b>4270</b>	<b>0</b>
<b>61/.103</b>	<b>.5</b>	.121	.15	2.914	41171	W <b>4082</b>	<b>5120</b>	<b>0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

# **“C.M.A.” CABLES**

## **THREE CORE (NO LEAD)**

**JUTE BEDDED AND SINGLE WIRE ARMoured**

**(ARMOURING LEFT BARE)**

**660 VOLT GRADE—CLASS No. 324.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and three cores, twisted together and wormed circular, taped, jute bedded and compounded, and armoured with a layer of galvanized steel wires.

No. and diameter of conductors.	Nominal area.	Thickness of Insulation.	Diameter of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.		£ s.
<b>1/.036</b>	<b>.001</b>	.055	.064	.58	982	W <b>4100</b>	<b>112 10</b>
<b>1/.044</b>	<b>.0015</b>	.055	.064	.598	1053	W <b>4102</b>	<b>122 0</b>
<b>3/.029</b>	<b>.002</b>	.056	.072	.697	1378	W <b>4104</b>	<b>152 0</b>
<b>1/.064</b>	<b>.003</b>	.057	.072	.705	1456	W <b>4106</b>	<b>160 0</b>
<b>3/.036</b>	<b>.003</b>	.057	.072	.752	1546	W <b>4108</b>	<b>175 10</b>
<b>7/.029</b>	<b>.0045</b>	.058	.072	.776	1658	W <b>4110</b>	<b>197 10</b>
<b>7/.036</b>	<b>.007</b>	.059	.072	.826	1893	W <b>4112</b>	<b>229 0</b>
<b>7/.044</b>	<b>.01</b>	.06	.072	.881	2162	W <b>4114</b>	<b>275 0</b>
<b>7/.052</b>	<b>.0145</b>	.061	.072	.937	2464	W <b>4116</b>	<b>341 0</b>
<b>7/.064</b>	<b>.0225</b>	.062	.072	1.019	2968	W <b>4118</b>	<b>427 0</b>
<b>19/.044</b>	<b>.03</b>	.062	.072	1.183	4073	W <b>4120</b>	<b>510 0</b>
<b>19/.052</b>	<b>.04</b>	.063	.08	1.274	4536	W <b>4122</b>	<b>669 0</b>
<b>19/.064</b>	<b>.06</b>	.065	.104	1.459	6384	W <b>4124</b>	<b>898 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.104	1.549	7347	W <b>4126</b>	<b>1047 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.104	1.693	8960	W <b>4128</b>	<b>1305 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.128	1.825	10763	W <b>4130</b>	<b>1515 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.128	1.967	12667	W <b>4132</b>	<b>1816 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.16	2.248	16979	W <b>4134</b>	<b>2325 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.16	2.429	19093	W <b>4136</b>	<b>2785 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.192	2.674	24920	W <b>4138</b>	<b>3360 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.192	2.975	31304	W <b>4140</b>	<b>4380 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.192	3.198	36266	W <b>4142</b>	<b>5205 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10%** extra.

*For current carrying capacities see pages 17 to 21.*

# **"C.M.A." CABLES**

## **THREE CORE (NO LEAD)**

**JUTE BEDDED, SINGLE WIRE ARMoured, AND  
SERVED OVERALL**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**660 VOLT GRADE—CLASS No. 325.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and three cores, twisted together and wormed circular, taped, jute bedded and compounded, and armoured with a layer of galvanized steel wires, jute served and further compounded overall.

No. and diameter of conductors.	Nominal area.	Thickness of Insulation.	Diameter of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.		£ s.
<b>1/.036</b>	<b>.001</b>	.055	.064	.7	1176	W <b>4160</b>	<b>135 10</b>
<b>1/.044</b>	<b>.0015</b>	.055	.064	.718	1254	W <b>4162</b>	<b>145 10</b>
<b>3/.029</b>	<b>.002</b>	.056	.072	.817	1602	W <b>4164</b>	<b>178 10</b>
<b>1/.064</b>	<b>.003</b>	.057	.072	.825	1691	W <b>4166</b>	<b>186 10</b>
<b>3/.036</b>	<b>.003</b>	.057	.072	.872	1781	W <b>4168</b>	<b>203 0</b>
<b>7/.029</b>	<b>.0045</b>	.058	.072	.896	1904	W <b>4170</b>	<b>226 0</b>
<b>7/.036</b>	<b>.007</b>	.059	.072	.946	2150	W <b>4172</b>	<b>259 0</b>
<b>7/.044</b>	<b>.01</b>	.06	.072	1.001	2442	W <b>4174</b>	<b>307 0</b>
<b>7/.052</b>	<b>.0145</b>	.061	.072	1.057	2766	W <b>4176</b>	<b>375 0</b>
<b>7/.064</b>	<b>.0225</b>	.062	.072	1.139	3304	W <b>4178</b>	<b>463 0</b>
<b>19/.044</b>	<b>.03</b>	.062	.072	1.383	5060	W <b>4180</b>	<b>560 0</b>
<b>19/.052</b>	<b>.04</b>	.063	.08	1.474	5365	W <b>4182</b>	<b>726 0</b>
<b>19/.064</b>	<b>.06</b>	.065	.104	1.659	7347	W <b>4184</b>	<b>962 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.104	1.749	8378	W <b>4186</b>	<b>1115 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.104	1.893	10067	W <b>4188</b>	<b>1378 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.128	2.025	11973	W <b>4190</b>	<b>1593 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.128	2.167	13955	W <b>4192</b>	<b>1902 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.16	2.448	18446	W <b>4194</b>	<b>2420 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.16	2.629	21672	W <b>4196</b>	<b>2890 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.192	2.874	26656	W <b>4198</b>	<b>3475 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.192	3.175	33253	W <b>4200</b>	<b>4510 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.192	3.398	38360	W <b>4202</b>	<b>5345 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

# “C.M.A.” CABLES

## THREE CORE

**LEAD COVERED AND SINGLE WIRE ARMoured**

**(ARMOURING LEFT BARE)**

**660 VOLT GRADE—CLASS No. 326.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and three cores twisted together and wormed circular, taped, covered with a solid tube of lead, jute bedded and compounded, and armoured with a layer of galvanized steel wires.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of Lead.	Diam. of Armour-ing Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.	
No./Ins.	Sq. Ins.	Ins.	Ins.	Ins.	Ins.	Lb.		£	s.
<b>1/.036</b>	<b>.001</b>	<b>.055</b>	<b>.06</b>	<b>.072</b>	<b>.756</b>	<b>2654</b>	W <b>4220</b>	<b>176</b>	<b>10</b>
<b>1/.044</b>	<b>.0015</b>	<b>.055</b>	<b>.06</b>	<b>.072</b>	<b>.774</b>	<b>2789</b>	W <b>4222</b>	<b>190</b>	<b>0</b>
<b>3/.029</b>	<b>.002</b>	<b>.056</b>	<b>.06</b>	<b>.072</b>	<b>.817</b>	<b>3024</b>	W <b>4224</b>	<b>214</b>	<b>0</b>
<b>1/.064</b>	<b>.003</b>	<b>.057</b>	<b>.06</b>	<b>.072</b>	<b>.825</b>	<b>3091</b>	W <b>4226</b>	<b>222</b>	<b>0</b>
<b>3/.036</b>	<b>.003</b>	<b>.057</b>	<b>.06</b>	<b>.072</b>	<b>.872</b>	<b>3293</b>	W <b>4228</b>	<b>241</b>	<b>0</b>
<b>7/.029</b>	<b>.0045</b>	<b>.058</b>	<b>.07</b>	<b>.072</b>	<b>.916</b>	<b>3763</b>	W <b>4230</b>	<b>275</b>	<b>0</b>
<b>7/.036</b>	<b>.007</b>	<b>.059</b>	<b>.07</b>	<b>.072</b>	<b>.966</b>	<b>4155</b>	W <b>4232</b>	<b>315</b>	<b>0</b>
<b>7/.044</b>	<b>.01</b>	<b>.06</b>	<b>.08</b>	<b>.072</b>	<b>1.041</b>	<b>4995</b>	W <b>4234</b>	<b>378</b>	<b>0</b>
<b>7/.052</b>	<b>.0145</b>	<b>.061</b>	<b>.08</b>	<b>.08</b>	<b>1.193</b>	<b>5846</b>	W <b>4236</b>	<b>478</b>	<b>0</b>
<b>7/.064</b>	<b>.0225</b>	<b>.062</b>	<b>.08</b>	<b>.08</b>	<b>1.275</b>	<b>6742</b>	W <b>4238</b>	<b>580</b>	<b>0</b>
<b>19/.044</b>	<b>.03</b>	<b>.062</b>	<b>.08</b>	<b>.08</b>	<b>1.343</b>	<b>7488</b>	W <b>4240</b>	<b>680</b>	<b>0</b>
<b>19/.052</b>	<b>.04</b>	<b>.063</b>	<b>.09</b>	<b>.104</b>	<b>1.502</b>	<b>9609</b>	W <b>4242</b>	<b>863</b>	<b>0</b>
<b>19/.064</b>	<b>.06</b>	<b>.065</b>	<b>.09</b>	<b>.104</b>	<b>1.639</b>	<b>11547</b>	W <b>4244</b>	<b>1091</b>	<b>0</b>
<b>19/.072</b>	<b>.075</b>	<b>.066</b>	<b>.09</b>	<b>.128</b>	<b>1.777</b>	<b>13765</b>	W <b>4246</b>	<b>1277</b>	<b>0</b>
<b>19/.083</b>	<b>.1</b>	<b>.072</b>	<b>.1</b>	<b>.128</b>	<b>1.941</b>	<b>16688</b>	W <b>4248</b>	<b>1584</b>	<b>0</b>
<b>37/.064</b>	<b>.12</b>	<b>.075</b>	<b>.1</b>	<b>.128</b>	<b>2.025</b>	<b>18054</b>	W <b>4250</b>	<b>1805</b>	<b>0</b>
<b>37/.072</b>	<b>.15</b>	<b>.08</b>	<b>.1</b>	<b>.16</b>	<b>2.231</b>	<b>22042</b>	W <b>4252</b>	<b>2168</b>	<b>0</b>
<b>37/.083</b>	<b>.2</b>	<b>.088</b>	<b>.11</b>	<b>.16</b>	<b>2.468</b>	<b>27014</b>	W <b>4254</b>	<b>2695</b>	<b>0</b>
<b>37/.093</b>	<b>.25</b>	<b>.095</b>	<b>.12</b>	<b>.192</b>	<b>2.733</b>	<b>33768</b>	W <b>4256</b>	<b>3245</b>	<b>0</b>
<b>37/.103</b>	<b>.3</b>	<b>.102</b>	<b>.13</b>	<b>.192</b>	<b>2.934</b>	<b>38267</b>	W <b>4258</b>	<b>3820</b>	<b>0</b>
<b>61/.093</b>	<b>.4</b>	<b>.114</b>	<b>.14</b>	<b>.192</b>	<b>3.255</b>	<b>48866</b>	W <b>4260</b>	<b>4955</b>	<b>0</b>
<b>61/.103</b>	<b>.5</b>	<b>.121</b>	<b>.15</b>	<b>.192</b>	<b>3.498</b>	<b>56918</b>	W <b>4262</b>	<b>5875</b>	<b>0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

**"C.M.A." CABLES**

**THREE CORE**

**LEAD COVERED, SINGLE WIRE ARMoured, AND  
SERVED OVERALL**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**660 VOLT GRADE—CLASS No. 327.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and three cores twisted together and wormed circular, taped, covered with a solid tube of lead, jute bedded and compounded, and armoured with a layer of galvanized steel wires, jute served and further compounded overall.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of Lead.	Diam. of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	ins.	ins.	ins.	ins.	lb.		£	s.
<b>1/.036</b>	<b>.001</b>	.055	.06	.072	.876	2923	W <b>4280</b>	<b>203</b>	<b>0</b>
<b>1/.044</b>	<b>.0015</b>	.055	.06	.072	.894	3046	W <b>4282</b>	<b>217</b>	<b>10</b>
<b>3/.029</b>	<b>.002</b>	.056	.06	.072	.937	3304	W <b>4284</b>	<b>242</b>	<b>10</b>
<b>1/.064</b>	<b>.003</b>	.057	.06	.072	.945	3371	W <b>4286</b>	<b>251</b>	<b>0</b>
<b>3/.036</b>	<b>.003</b>	.057	.06	.072	.992	3584	W <b>4288</b>	<b>271</b>	<b>0</b>
<b>7/.029</b>	<b>.0045</b>	.058	.07	.072	1.036	4066	W <b>4290</b>	<b>306</b>	<b>10</b>
<b>7/.036</b>	<b>.007</b>	.059	.07	.072	1.086	4480	W <b>4292</b>	<b>348</b>	<b>0</b>
<b>7/.044</b>	<b>.01</b>	.06	.08	.072	1.161	5342	W <b>4294</b>	<b>414</b>	<b>0</b>
<b>7/.052</b>	<b>.0145</b>	.061	.08	.08	1.393	6642	W <b>4296</b>	<b>527</b>	<b>0</b>
<b>7/.064</b>	<b>.0225</b>	.062	.08	.08	1.475	7594	W <b>4298</b>	<b>632</b>	<b>0</b>
<b>19/.044</b>	<b>.03</b>	.062	.08	.08	1.543	8381	W <b>4300</b>	<b>740</b>	<b>0</b>
<b>19/.052</b>	<b>.04</b>	.063	.09	.104	1.702	10606	W <b>4302</b>	<b>922</b>	<b>0</b>
<b>19/.064</b>	<b>.06</b>	.065	.09	.104	1.839	12634	W <b>4304</b>	<b>1155</b>	<b>0</b>
<b>19/.072</b>	<b>.075</b>	.066	.09	.128	1.977	14941	W <b>4306</b>	<b>1348</b>	<b>0</b>
<b>19/.083</b>	<b>.1</b>	.072	.1	.128	2.141	17965	W <b>4308</b>	<b>1659</b>	<b>0</b>
<b>37/.064</b>	<b>.12</b>	.075	.1	.128	2.225	19387	W <b>4310</b>	<b>1883</b>	<b>0</b>
<b>37/.072</b>	<b>.15</b>	.08	.1	.16	2.431	23498	W <b>4312</b>	<b>2254</b>	<b>0</b>
<b>37/.083</b>	<b>.2</b>	.088	.11	.16	2.668	28627	W <b>4314</b>	<b>2790</b>	<b>0</b>
<b>37/.093</b>	<b>.25</b>	.095	.12	.192	2.933	35549	W <b>4316</b>	<b>3350</b>	<b>0</b>
<b>37/.103</b>	<b>.3</b>	.102	.13	.192	3.134	41171	W <b>4318</b>	<b>3935</b>	<b>0</b>
<b>61/.093</b>	<b>.4</b>	.114	.14	.192	3.455	50994	W <b>4320</b>	<b>5085</b>	<b>0</b>
<b>61/.103</b>	<b>.5</b>	.121	.15	.192	3.698	59203	W <b>4322</b>	<b>6020</b>	<b>0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

**S.E.C.****PIRELLI GENERAL****C.M.A.**

Regd. Trade  
Mark (No.  
42219/20/21).

**"C.M.A." CABLES****SINGLE CORE****BRAIDED****H.T. GRADES**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, braided and compounded.

**2200-Volt Grade—CLASS No. 351.**

Thickness of Insulation = .12in.

No. and diameter of conductors.	Nominal area.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
No./Ins.	Sq. ins.	ins.	lb.		£ s.
<b>7/.064</b>	<b>.0225</b>	.501	624	W <b>4500</b>	<b>146 0</b>
<b>19/.044</b>	<b>.03</b>	.529	726	W <b>4501</b>	<b>169 0</b>
<b>19/.052</b>	<b>.04</b>	.604	907	W <b>4502</b>	<b>211 0</b>
<b>19/.064</b>	<b>.06</b>	.664	1223	W <b>4503</b>	<b>274 0</b>
<b>19/.072</b>	<b>.075</b>	.704	1462	W <b>4504</b>	<b>320 0</b>
<b>19/.083</b>	<b>.1</b>	.759	1821	W <b>4505</b>	<b>385 0</b>
<b>37/.072</b>	<b>.15</b>	.876	2462	W <b>4506</b>	<b>520 0</b>
<b>37/.083</b>	<b>.2</b>	.953	3122	W <b>4507</b>	<b>650 0</b>
<b>37/.093</b>	<b>.25</b>	1.023	3890	W <b>4508</b>	<b>785 0</b>

**3300-Volt Grade—CLASS No. 361.**

Thickness of Insulation = .14in.

No. and diameter of conductors.	Nominal area.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
No./Ins.	Sq. ins.	ins.	lb.		£ s.
<b>7/.064</b>	<b>.0225</b>	.541	694	W <b>4509</b>	<b>169 0</b>
<b>19/.044</b>	<b>.03</b>	.604	800	W <b>4510</b>	<b>193 0</b>
<b>19/.052</b>	<b>.04</b>	.644	988	W <b>4511</b>	<b>237 0</b>
<b>19/.064</b>	<b>.06</b>	.704	1312	W <b>4512</b>	<b>301 0</b>
<b>19/.072</b>	<b>.075</b>	.744	1555	W <b>4513</b>	<b>346 0</b>
<b>19/.083</b>	<b>.1</b>	.799	1917	W <b>4514</b>	<b>419 0</b>
<b>37/.072</b>	<b>.15</b>	.916	2567	W <b>4515</b>	<b>555 0</b>
<b>37/.083</b>	<b>.2</b>	.993	3333	W <b>4516</b>	<b>685 0</b>
<b>37/.093</b>	<b>.25</b>	1.063	4023	W <b>4517</b>	<b>820 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

H.T. and E.H.T. Cables can be supplied in any other finish desired. Quotations for E.H.T. Cables in Ozone-proof construction for special working conditions will be submitted on receipt of details of requirements.



**“C.M.A.” CABLES**  
**SINGLE CORE**

**BRAIDED**

**E.H.T. GRADES**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, braided and compounded.



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**5500-Volt Grade—CLASS No. 371.**

Thickness of Insulation = .18in.

No. and diameter of conductors.	Nominal area.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	Ins.	lb.		£ s.
<b>7/.064</b>	<b>.0225</b>	.656	832	W <b>4518</b>	<b>214 0</b>
<b>19/.044</b>	<b>.03</b>	.684	950	W <b>4519</b>	<b>239 0</b>
<b>19/.052</b>	<b>.04</b>	.724	1160	W <b>4520</b>	<b>285 0</b>
<b>19/.064</b>	<b>.06</b>	.784	1491	W <b>4521</b>	<b>354 0</b>
<b>19/.072</b>	<b>.075</b>	.824	1738	W <b>4522</b>	<b>401 0</b>
<b>19/.083</b>	<b>.1</b>	.907	2112	W <b>4523</b>	<b>475 0</b>
<b>37/.072</b>	<b>.15</b>	.996	2881	W <b>4524</b>	<b>619 0</b>
<b>37/.083</b>	<b>.2</b>	1.073	3584	W <b>4525</b>	<b>755 0</b>
<b>37/.093</b>	<b>.25</b>	1.143	4292	W <b>4526</b>	<b>890 0</b>

**6600-Volt Grade—CLASS No. 381.**

Thickness of Insulation = .2in.

<b>7/.064</b>	<b>.0225</b>	.696	912	W <b>4527</b>	<b>238 0</b>
<b>19/.044</b>	<b>.03</b>	.724	1023	W <b>4528</b>	<b>265 0</b>
<b>19/.052</b>	<b>.04</b>	.764	1221	W <b>4529</b>	<b>313 0</b>
<b>19/.064</b>	<b>.06</b>	.824	1552	W <b>4530</b>	<b>383 0</b>
<b>19/.072</b>	<b>.075</b>	.892	1836	W <b>4531</b>	<b>431 0</b>
<b>19/.083</b>	<b>.1</b>	.942	2218	W <b>4532</b>	<b>509 0</b>
<b>37/.072</b>	<b>.15</b>	1.036	3004	W <b>4533</b>	<b>657 0</b>
<b>37/.083</b>	<b>.2</b>	1.113	3717	W <b>4534</b>	<b>795 0</b>
<b>37/.093</b>	<b>.25</b>	1.183	4433	W <b>4535</b>	<b>930 0</b>

**11000-Volt Grade—CLASS No. 391.**

Thickness of Insulation = .3in.

<b>7/.064</b>	<b>.0225</b>	.924	1333	W <b>4536</b>	<b>367 0</b>
<b>19/.044</b>	<b>.03</b>	.952	1511	W <b>4537</b>	<b>400 0</b>
<b>19/.052</b>	<b>.04</b>	.992	1792	W <b>4538</b>	<b>456 0</b>
<b>19/.064</b>	<b>.06</b>	1.032	2169	W <b>4539</b>	<b>542 0</b>
<b>19/.072</b>	<b>.075</b>	1.092	2449	W <b>4540</b>	<b>598 0</b>
<b>19/.083</b>	<b>.1</b>	1.147	2870	W <b>4541</b>	<b>684 0</b>
<b>37/.072</b>	<b>.15</b>	1.236	3616	W <b>4542</b>	<b>846 0</b>
<b>37/.083</b>	<b>.2</b>	1.333	4369	W <b>4543</b>	<b>995 0</b>
<b>37/.093</b>	<b>.25</b>	1.403	5124	W <b>4544</b>	<b>1145 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

H.T. and E.H.T. Cables can be supplied in any other finish desired. Quotations for E.H.T. Cables in Ozone-proof construction for special working conditions will be submitted on receipt of details of requirements.

**S.E.C.****PIRELLI GENERAL****C.M.A.**
 Regd. Trade  
 Mark (No.  
 422219/20/21).

# “C.M.A.” CABLES

## SINGLE CORE

### TAPED AND LEAD COVERED

### H.T. GRADES

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and lead covered.

#### 2200-Volt Grade—CLASS No. 353.

Thickness of Insulation = .12in.

No. and diameter of conductors.	Nominal area.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
No. ins.	Sq. ins.	ins.	lb.		£ s.
<b>7/.064</b>	<b>.0225</b>	.596	2212	W <b>4600</b>	<b>188 0</b>
<b>19/.044</b>	<b>.03</b>	.624	2387	W <b>4601</b>	<b>212 0</b>
<b>19/.052</b>	<b>.04</b>	.664	2697	W <b>4602</b>	<b>255 0</b>
<b>19/.064</b>	<b>.06</b>	.744	3527	W <b>4603</b>	<b>333 0</b>
<b>19/.072</b>	<b>.075</b>	.784	3902	W <b>4604</b>	<b>385 0</b>
<b>19/.083</b>	<b>.1</b>	.839	4453	W <b>4605</b>	<b>455 0</b>
<b>37/.072</b>	<b>.15</b>	.956	5844	W <b>4606</b>	<b>610 0</b>
<b>37/.083</b>	<b>.2</b>	1.033	6817	W <b>4607</b>	<b>745 0</b>
<b>37/.093</b>	<b>.25</b>	1.123	8280	W <b>4608</b>	<b>905 0</b>

#### 3300-Volt Grade—CLASS No. 363.

Thickness of Insulation = .14in.

No. and diameter of conductors.	Nominal area.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
No. ins.	Sq. ins.	ins.	lb.		£ s.
<b>7/.064</b>	<b>.0225</b>	.636	2402	W <b>4609</b>	<b>212 0</b>
<b>19/.044</b>	<b>.03</b>	.664	2579	W <b>4610</b>	<b>238 0</b>
<b>19/.052</b>	<b>.04</b>	.704	2896	W <b>4611</b>	<b>285 0</b>
<b>19/.064</b>	<b>.06</b>	.784	3752	W <b>4612</b>	<b>367 0</b>
<b>19/.072</b>	<b>.075</b>	.824	4134	W <b>4613</b>	<b>416 0</b>
<b>19/.083</b>	<b>.1</b>	.879	4692	W <b>4614</b>	<b>493 0</b>
<b>37/.072</b>	<b>.15</b>	.996	6112	W <b>4615</b>	<b>648 0</b>
<b>37/.083</b>	<b>.2</b>	1.073	7095	W <b>4616</b>	<b>785 0</b>
<b>37/.093</b>	<b>.25</b>	1.163	8587	W <b>4617</b>	<b>945 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10%** extra.

H.T. and E.H.T. Cables can be supplied in any other finish desired. Quotations for E.H.T. Cables in Ozone-proof construction for special working conditions will be submitted on receipt of details of requirements.

# "C.M.A." CABLES

## SINGLE CORE TAPED AND LEAD COVERED

### E.H.T. GRADES

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and lead covered.

**5500-Volt Grade—CLASS No. 373.**

Thickness of Insulation = .18in.



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

No. and diameter of conductors.	Nominal area.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	lb.		£ s.
<b>7/.064</b>	<b>.0225</b>	.716	2819	<b>W 4618</b>	<b>260 0</b>
<b>19/.044</b>	<b>.03</b>	.744	3011	<b>W 4619</b>	<b>290 0</b>
<b>19/.052</b>	<b>.04</b>	.784	3351	<b>W 4620</b>	<b>342 0</b>
<b>19/.064</b>	<b>.06</b>	.864	4265	<b>W 4621</b>	<b>426 0</b>
<b>19/.072</b>	<b>.075</b>	.904	4656	<b>W 4622</b>	<b>478 0</b>
<b>19/.083</b>	<b>.1</b>	.967	5227	<b>W 4623</b>	<b>555 0</b>
<b>37/.072</b>	<b>.15</b>	1.076	6713	<b>W 4624</b>	<b>720 0</b>
<b>37/.083</b>	<b>.2</b>	1.153	7716	<b>W 4625</b>	<b>865 0</b>
<b>37/.093</b>	<b>.25</b>	1.243	9268	<b>W 4626</b>	<b>1025 0</b>

**6600-Volt Grade—CLASS No. 383.**

Thickness of Insulation = .2in.

<b>7/.064</b>	<b>.0225</b>	.776	3377	<b>W 4627</b>	<b>302 0</b>
<b>19/.044</b>	<b>.03</b>	.804	3573	<b>W 4628</b>	<b>330 0</b>
<b>19/.052</b>	<b>.04</b>	.844	3923	<b>W 4629</b>	<b>385 0</b>
<b>19/.064</b>	<b>.06</b>	.924	4898	<b>W 4630</b>	<b>473 0</b>
<b>19/.072</b>	<b>.075</b>	.972	5344	<b>W 4631</b>	<b>527 0</b>
<b>19/.083</b>	<b>.1</b>	1.027	5948	<b>W 4632</b>	<b>608 0</b>
<b>37/.072</b>	<b>.15</b>	1.136	7515	<b>W 4633</b>	<b>780 0</b>
<b>37/.083</b>	<b>.2</b>	1.213	8563	<b>W 4634</b>	<b>930 0</b>
<b>37/.093</b>	<b>.25</b>	1.303	10185	<b>W 4635</b>	<b>1095 0</b>

**11000-Volt Grade—CLASS No. 393.**

Thickness of Insulation = .3in.

<b>7/.064</b>	<b>.0225</b>	.984	4529	<b>W 4636</b>	<b>447 0</b>
<b>19/.044</b>	<b>.03</b>	1.012	4740	<b>W 4637</b>	<b>480 0</b>
<b>19/.052</b>	<b>.04</b>	1.052	5116	<b>W 4638</b>	<b>544 0</b>
<b>19/.064</b>	<b>.06</b>	1.132	6220	<b>W 4639</b>	<b>652 0</b>
<b>19/.072</b>	<b>.075</b>	1.172	6655	<b>W 4640</b>	<b>713 0</b>
<b>19/.083</b>	<b>.1</b>	1.227	7289	<b>W 4641</b>	<b>804 0</b>
<b>37/.072</b>	<b>.15</b>	1.336	8997	<b>W 4642</b>	<b>892 0</b>
<b>37/.083</b>	<b>.2</b>	1.413	10086	<b>W 4643</b>	<b>1150 0</b>
<b>37/.093</b>	<b>.25</b>	1.503	11838	<b>W 4644</b>	<b>1335 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

H.T. and E.H.T. Cables can be supplied in any other finish desired. Quotations for E.H.T. Cables in Ozone-proof construction for special working conditions will be submitted on receipt of details of requirements.



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

## “C.M.A.” CABLES

### SINGLE CORE

#### TOUGH RUBBER SHEATHED

#### 600 MEGOHM GRADE—CLASS No. 401.

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of solid rubber sheath-ing.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mille at 60° F.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£	s.
1/.036	.001	.034	.05	.204	85	2000	W 5001	31	0
1/.044	.0015	.034	.05	.212	96	2000	W 5003	33	10
3/.029	.002	.036	.05	.234	115	1250	W 5005	39	0
1/.064	.003	.036	.05	.236	128	2000	W 5007	40	10
3/.036	.003	.038	.05	.254	142	1250	W 5009	45	0
7/.029	.0045	.039	.05	.265	167	1250	W 5011	52	0
7/.036	.007	.041	.05	.29	214	900	W 5013	62	0
7/.044	.01	.043	.05	.318	278	900	W 5015	77	0
7/.052	.0145	.046	.05	.348	352	900	W 5017	94	0
7/.064	.0225	.049	.06	.41	505	900	W 5019	128	0
19/.044	.03	.052	.06	.444	607	750	W 5021	157	0
19/.052	.04	.056	.06	.492	787	750	W 5023	208	0
19/.064	.06	.062	.06	.564	1108	750	W 5025	273	0
19/.072	.075	.066	.06	.612	1354	600	W 5027	324	0
19/.083	.1	.072	.08	.719	1837	600	W 5029	423	0
37/.064	.12	.075	.08	.758	2060	600	W 5031	483	0
37/.072	.15	.08	.08	.824	2522	600	W 5033	573	0
37/.083	.2	.088	.1	.957	3381	600	W 5035	735	0
37/.093	.25	.095	.1	1.041	4122	600	W 5037	885	0
37/.103	.3	.102	.1	1.125	4946	600	W 5039	1040	0
61/.093	.4	.114	.12	1.305	6645	600	W 5041	1390	0
61/.103	.5	.121	.12	1.409	7973	600	W 5043	1640	0
91/.093	.6	.125	.13	1.533	9572	600	W 5045	1960	0
91/.103	.75	.131	.13	1.655	11491	600	W 5047	2345	0
127/.093	.85	.135	.13	1.739	12933	600	W 5049	2630	0
127/.103	1	.141	.15	1.921	15837	600	W 5051	3175	0

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, 10% extra.

*For current carrying capacities see pages 17 to 21.*

# “C.M.A.” CABLES

## SINGLE CORE

### TOUGH RUBBER SHEATHED

**2500 MEGOHM GRADE—CLASS No. 501.**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of solid rubber sheath-ing.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.034	.05	.204	85	5000	W <b>5052</b>	<b>32 10</b>
<b>1/.044</b>	<b>.0015</b>	.034	.05	.212	96	5000	W <b>5054</b>	<b>35 0</b>
<b>3/.029</b>	<b>.002</b>	.036	.05	.234	115	4500	W <b>5056</b>	<b>41 0</b>
<b>1/.064</b>	<b>.003</b>	.036	.05	.236	128	5000	W <b>5058</b>	<b>42 10</b>
<b>3/.036</b>	<b>.003</b>	.038	.05	.254	142	4500	W <b>5060</b>	<b>47 10</b>
<b>7/.029</b>	<b>.0045</b>	.039	.05	.265	167	4500	W <b>5062</b>	<b>55 0</b>
<b>7/.036</b>	<b>.007</b>	.041	.05	.29	214	4000	W <b>5064</b>	<b>65 0</b>
<b>7/.044</b>	<b>.01</b>	.043	.05	.318	278	4000	W <b>5066</b>	<b>82 0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.05	.348	352	4000	W <b>5068</b>	<b>100 0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.06	.41	505	3500	W <b>5070</b>	<b>136 0</b>
<b>19/.044</b>	<b>.03</b>	.052	.06	.444	607	3500	W <b>5072</b>	<b>168 0</b>
<b>19/.052</b>	<b>.04</b>	.056	.06	.492	787	3000	W <b>5074</b>	<b>219 0</b>
<b>19/.064</b>	<b>.06</b>	.062	.06	.564	1108	3000	W <b>5076</b>	<b>289 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.06	.612	1354	3000	W <b>5078</b>	<b>344 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.08	.719	1837	3000	W <b>5080</b>	<b>447 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.08	.758	2060	3000	W <b>5082</b>	<b>511 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.08	.824	2522	3000	W <b>5084</b>	<b>607 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.1	.957	3381	2500	W <b>5086</b>	<b>780 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.1	1.041	4122	2500	W <b>5088</b>	<b>935 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.1	1.125	4946	2500	W <b>5090</b>	<b>1105 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.12	1.305	6645	2500	W <b>5092</b>	<b>1475 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.12	1.409	7973	2500	W <b>5094</b>	<b>1745 0</b>
<b>91/.093</b>	<b>.6</b>	.125	.13	1.533	9572	2500	W <b>5096</b>	<b>2085 0</b>
<b>91/.103</b>	<b>.75</b>	.131	.13	1.655	11491	2500	W <b>5098</b>	<b>2500 0</b>
<b>127/.093</b>	<b>.85</b>	.135	.13	1.739	12933	2500	W <b>5100</b>	<b>2810 0</b>
<b>127/.103</b>	<b>1</b>	.141	.15	1.921	15837	2500	W <b>5102</b>	<b>3380 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

## "C.M.A." CABLES

### TWIN CORE (FLAT)

### TOUGH RUBBER SHEATHED

### 600 MEGOHM GRADE—CLASS No. 410.

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, the two cores laid side by side and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

No. and diam. of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of solid rubber sheath-ing.	Approx. overall dimensions.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.034	.05	.204 × .308	146	2000	W <b>5105</b>	<b>58 10</b>
<b>1/.044</b>	<b>.0015</b>	.034	.05	.212 × .324	166	2000	W <b>5107</b>	<b>64 0</b>
<b>3/.029</b>	<b>.002</b>	.036	.06	.254 × .388	230	1250	W <b>5109</b>	<b>80 10</b>
<b>1/.064</b>	<b>.003</b>	.036	.06	.256 × .392	254	2000	W <b>5111</b>	<b>84 0</b>
<b>3/.036</b>	<b>.003</b>	.038	.06	.274 × .428	284	1250	W <b>5113</b>	<b>95 0</b>
<b>7/.029</b>	<b>.0045</b>	.039	.06	.285 × .45	335	1250	W <b>5115</b>	<b>110 10</b>
<b>7/.036</b>	<b>.007</b>	.041	.06	.31 × .5	435	900	W <b>5117</b>	<b>132 0</b>
<b>7/.044</b>	<b>.01</b>	.043	.06	.338 × .556	566	900	W <b>5119</b>	<b>167 0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.06	.368 × .616	721	900	W <b>5121</b>	<b>209 0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.08	.45 × .74	1068	900	W <b>5123</b>	<b>281 0</b>
<b>19/.044</b>	<b>.03</b>	.052	.08	.484 × .808	1320	750	W <b>5125</b>	<b>345 0</b>
<b>19/.052</b>	<b>.04</b>	.056	.1	.572 × .944	1770	750	W <b>5127</b>	<b>462 0</b>
<b>19/.064</b>	<b>.06</b>	.062	.1	.644 × 1.088	2458	750	W <b>5129</b>	<b>605 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.1	.692 × 1.184	2985	600	W <b>5131</b>	<b>718 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.12	.799 × 1.358	3960	600	W <b>5133</b>	<b>915 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.12	.838 × 1.436	4459	600	W <b>5135</b>	<b>1047 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.13	.924 × 1.588	5540	600	W <b>5137</b>	<b>1260 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.15	1.057 × 1.814	7302	600	W <b>5139</b>	<b>1595 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

**"C.M.A." CABLES**

**TWIN CORE (FLAT)**

**TOUGH RUBBER SHEATHED**



**C.M.A.**

**2500 MEGOHM GRADE—CLASS No. 510.**

Regd. Trade  
Mark (No.  
422219/20/21).

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, the two cores laid side by side and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

No. and diam. of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of solid rubber sheathing.	Approx. overall dimensions.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./Ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.034	.05	.204 × .308	146	5000	W <b>5140</b>	<b>61 0</b>
<b>1/.044</b>	<b>.0015</b>	.034	.05	.212 × .324	166	5000	W <b>5142</b>	<b>67 0</b>
<b>3/.029</b>	<b>.002</b>	.036	.06	.254 × .388	230	4500	W <b>5144</b>	<b>84 10</b>
<b>1/.064</b>	<b>.003</b>	.036	.06	.256 × .392	254	5000	W <b>5146</b>	<b>88 0</b>
<b>3/.036</b>	<b>.003</b>	.038	.06	.274 × .428	284	4500	W <b>5148</b>	<b>99 10</b>
<b>7/.029</b>	<b>.0045</b>	.039	.06	.285 × .45	335	4500	W <b>5150</b>	<b>116 0</b>
<b>7/.036</b>	<b>.007</b>	.041	.06	.31 × .5	435	4000	W <b>5152</b>	<b>139 0</b>
<b>7/.044</b>	<b>.01</b>	.043	.06	.338 × .556	566	4000	W <b>5154</b>	<b>176 0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.06	.368 × .616	721	4000	W <b>5156</b>	<b>220 0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.08	.45 × .74	1068	3500	W <b>5158</b>	<b>296 0</b>
<b>19/.044</b>	<b>.03</b>	.052	.08	.484 × .808	1320	3500	W <b>5160</b>	<b>365 0</b>
<b>19/.052</b>	<b>.04</b>	.056	.1	.572 × .944	1770	3000	W <b>5162</b>	<b>486 0</b>
<b>19/.064</b>	<b>.06</b>	.062	.1	.644 × 1.088	2458	3000	W <b>5164</b>	<b>638 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.1	.692 × 1.184	2985	3000	W <b>5166</b>	<b>757 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.12	.799 × 1.358	3960	3000	W <b>5168</b>	<b>964 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.12	.838 × 1.436	4459	3000	W <b>5170</b>	<b>1104 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.13	.924 × 1.588	5540	3000	W <b>5172</b>	<b>1329 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.15	1.057 × 1.814	7302	2500	W <b>5174</b>	<b>1680 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10%** extra.

*For current carrying capacities see pages 17 to 21.*



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

# “C.M.A.” CABLES

## TWIN CORE (CIRCULAR)

**TOUGH RUBBER SHEATHED**

**600 MEGOHM GRADE—CLASS No. 411.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, the two cores then **twisted** together and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of solid rubber sheathing.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.034	.05	.308	196	2000	W <b>5177</b>	<b>63 10</b>
<b>1/.044</b>	<b>.0015</b>	.034	.05	.324	224	2000	W <b>5179</b>	<b>71 10</b>
<b>3/.029</b>	<b>.002</b>	.036	.06	.388	307	1250	W <b>5181</b>	<b>92 10</b>
<b>1/.064</b>	<b>.003</b>	.036	.06	.392	334	2000	W <b>5183</b>	<b>96 0</b>
<b>3/.036</b>	<b>.003</b>	.038	.06	.428	383	1250	W <b>5185</b>	<b>111 10</b>
<b>7/.029</b>	<b>.0045</b>	.039	.06	.45	446	1250	W <b>5187</b>	<b>132 10</b>
<b>7/.036</b>	<b>.007</b>	.041	.06	.5	578	900	W <b>5189</b>	<b>161 0</b>
<b>7/.044</b>	<b>.01</b>	.043	.06	.556	749	900	W <b>5191</b>	<b>205 0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.06	.616	953	900	W <b>5193</b>	<b>261 0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.08	.74	1398	900	W <b>5195</b>	<b>364 0</b>
<b>19/.044</b>	<b>.03</b>	.052	.08	.808	1721	750	W <b>5197</b>	<b>445 0</b>
<b>19/.052</b>	<b>.04</b>	.056	.1	.944	2298	750	W <b>5199</b>	<b>586 0</b>
<b>19/.064</b>	<b>.06</b>	.062	.1	1.088	3192	750	W <b>5201</b>	<b>772 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.1	1.184	3875	600	W <b>5203</b>	<b>921 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.12	1.358	5118	600	W <b>5205</b>	<b>1181 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.12	1.436	5768	600	W <b>5207</b>	<b>1351 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.13	1.588	7151	600	W <b>5209</b>	<b>1643 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.15	1.814	9397	600	W <b>5211</b>	<b>2095 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.15	1.982	11430	600	W <b>5213</b>	<b>2510 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.175	2.2	14101	600	W <b>5215</b>	<b>3050 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.2	2.530	18704	600	W <b>5217</b>	<b>4075 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.225	2.788	22814	600	W <b>5219</b>	<b>4950 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10%** extra.

*For current carrying capacities see pages 17 to 21.*



**“C.M.A.” CABLES**

**TWIN CORE (CIRCULAR)**

**TOUGH RUBBER SHEATHED**

**2500 MEGOHM GRADE—CLASS No. 511.**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, the two cores then twisted together and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of solid rubber sheath-ing.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.034	.05	.308	196	5000	W <b>5220</b>	<b>66 10</b>
<b>1/.044</b>	<b>.0015</b>	.034	.05	.324	224	5000	W <b>5222</b>	<b>74 10</b>
<b>3/.029</b>	<b>.002</b>	.036	.06	.388	307	4500	W <b>5224</b>	<b>96 10</b>
<b>1/.064</b>	<b>.003</b>	.036	.06	.392	334	5000	W <b>5226</b>	<b>100 0</b>
<b>3/.036</b>	<b>.003</b>	.038	.06	.428	383	4500	W <b>5228</b>	<b>116 0</b>
<b>7/.029</b>	<b>.0045</b>	.039	.06	.45	446	4500	W <b>5230</b>	<b>138 0</b>
<b>7/.036</b>	<b>.007</b>	.041	.06	.5	578	4000	W <b>5232</b>	<b>168 0</b>
<b>7/.044</b>	<b>.01</b>	.043	.06	.556	749	4000	W <b>5234</b>	<b>214 0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.06	.616	953	4000	W <b>5236</b>	<b>273 0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.08	.74	1398	3500	W <b>5238</b>	<b>380 0</b>
<b>19/.044</b>	<b>.03</b>	.052	.08	.808	1721	3500	W <b>5240</b>	<b>465 0</b>
<b>19/.052</b>	<b>.04</b>	.056	.1	.944	2298	3000	W <b>5242</b>	<b>612 0</b>
<b>19/.064</b>	<b>.06</b>	.062	.1	1.088	3192	3000	W <b>5244</b>	<b>808 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.1	1.184	3875	3000	W <b>5246</b>	<b>963 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.12	1.358	5118	3000	W <b>5248</b>	<b>1233 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.12	1.436	5768	3000	W <b>5250</b>	<b>1413 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.13	1.588	7151	3000	W <b>5252</b>	<b>1718 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.15	1.814	9397	2500	W <b>5254</b>	<b>2190 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.15	1.982	11430	2500	W <b>5256</b>	<b>2625 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.175	2.2	14101	2500	W <b>5258</b>	<b>3190 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.2	2.530	18704	2500	W <b>5260</b>	<b>4235 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.225	2.788	22814	2500	W <b>5262</b>	<b>5170 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

## “C.M.A.” CABLES

### THREE CORE (CIRCULAR)

**TOUGH RUBBER SHEATHED**

**600 MEGOHM GRADE—CLASS No. 421.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, the three cores then twisted together and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of solid rubber sheath-ing.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mille at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.034	.05	.324	224	2000	W <b>5265</b>	<b>76 10</b>
<b>1/.044</b>	<b>.0015</b>	.034	.05	.341	260	2000	W <b>5267</b>	<b>87 0</b>
<b>3/.029</b>	<b>.002</b>	.036	.06	.408	354	1250	W <b>5269</b>	<b>114 0</b>
<b>1/.064</b>	<b>.003</b>	.036	.06	.412	392	2000	W <b>5271</b>	<b>119 0</b>
<b>3/.036</b>	<b>.003</b>	.038	.06	.451	448	1250	W <b>5273</b>	<b>136 10</b>
<b>7/.029</b>	<b>.0045</b>	.039	.06	.475	531	1250	W <b>5275</b>	<b>162 0</b>
<b>7/.036</b>	<b>.007</b>	.041	.06	.529	698	900	W <b>5277</b>	<b>201 0</b>
<b>7/.044</b>	<b>.01</b>	.043	.06	.589	917	900	W <b>5279</b>	<b>254 0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.08	.693	1276	900	W <b>5281</b>	<b>340 0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.08	.784	1718	900	W <b>5283</b>	<b>451 0</b>
<b>19/.044</b>	<b>.03</b>	.052	.08	.857	2128	750	W <b>5285</b>	<b>560 0</b>
<b>19/.052</b>	<b>.04</b>	.056	.1	1	2858	750	W <b>5287</b>	<b>741 0</b>
<b>19/.064</b>	<b>.06</b>	.062	.1	1.155	4014	750	W <b>5289</b>	<b>991 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.12	1.298	5078	600	W <b>5291</b>	<b>1208 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.12	1.442	6478	600	W <b>5293</b>	<b>1503 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.13	1.546	7426	600	W <b>5295</b>	<b>1745 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.13	1.688	9091	600	W <b>5297</b>	<b>2095 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.15	1.928	11967	600	W <b>5299</b>	<b>2660 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.175	2.158	14997	600	W <b>5301</b>	<b>3280 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.175	2.339	17965	600	W <b>5303</b>	<b>3890 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.225	2.74	24394	600	W <b>5305</b>	<b>5345 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.25	3.013	29725	600	W <b>5307</b>	<b>6435 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

**"C.M.A." CABLES**

**THREE CORE (CIRCULAR)**

**TOUGH RUBBER SHEATHED**

**2500 MEGOHM GRADE—CLASS No. 521.**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, the three cores then twisted together and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insula-tion.	Thick-ness of solid rubber sheath-ing.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£	s.
<b>1/.036</b>	<b>.001</b>	.034	.05	.324	224	5000	W <b>5308</b>	<b>81</b>	<b>0</b>
<b>1/.044</b>	<b>.0015</b>	.034	.05	.341	260	5000	W <b>5310</b>	<b>91</b>	<b>10</b>
<b>3/.029</b>	<b>.002</b>	.036	.06	.408	354	4500	W <b>5312</b>	<b>120</b>	<b>0</b>
<b>1/.064</b>	<b>.003</b>	.036	.06	.412	392	5000	W <b>5314</b>	<b>125</b>	<b>0</b>
<b>3/.036</b>	<b>.003</b>	.038	.06	.451	448	4500	W <b>5316</b>	<b>143</b>	<b>10</b>
<b>7/.029</b>	<b>.0045</b>	.039	.06	.475	531	4500	W <b>5318</b>	<b>171</b>	<b>0</b>
<b>7/.036</b>	<b>.007</b>	.041	.06	.529	698	4000	W <b>5320</b>	<b>212</b>	<b>0</b>
<b>7/.044</b>	<b>.01</b>	.043	.06	.589	917	4000	W <b>5322</b>	<b>269</b>	<b>0</b>
<b>7/.052</b>	<b>.0145</b>	.046	.08	.693	1276	4000	W <b>5324</b>	<b>359</b>	<b>0</b>
<b>7/.064</b>	<b>.0225</b>	.049	.08	.784	1718	3500	W <b>5326</b>	<b>475</b>	<b>0</b>
<b>19/.044</b>	<b>.03</b>	.052	.08	.857	2128	3500	W <b>5328</b>	<b>580</b>	<b>0</b>
<b>19/.052</b>	<b>.04</b>	.056	.1	1	2858	3000	W <b>5330</b>	<b>780</b>	<b>0</b>
<b>19/.064</b>	<b>.06</b>	.062	.1	1.155	4014	3000	W <b>5332</b>	<b>1044</b>	<b>0</b>
<b>19/.072</b>	<b>.075</b>	.066	.12	1.298	5078	3000	W <b>5334</b>	<b>1272</b>	<b>0</b>
<b>19/.083</b>	<b>.1</b>	.072	.12	1.442	6478	3000	W <b>5336</b>	<b>1582</b>	<b>0</b>
<b>37/.064</b>	<b>.12</b>	.075	.13	1.546	7426	3000	W <b>5338</b>	<b>1837</b>	<b>0</b>
<b>37/.072</b>	<b>.15</b>	.08	.13	1.688	9091	3000	W <b>5340</b>	<b>2206</b>	<b>0</b>
<b>37/.083</b>	<b>.2</b>	.088	.15	1.928	11967	2500	W <b>5342</b>	<b>2805</b>	<b>0</b>
<b>37/.093</b>	<b>.25</b>	.095	.175	2.158	14997	2500	W <b>5344</b>	<b>3450</b>	<b>0</b>
<b>37/.103</b>	<b>.3</b>	.102	.175	2.339	17965	2500	W <b>5346</b>	<b>4095</b>	<b>0</b>
<b>61/.093</b>	<b>.4</b>	.114	.225	2.74	24394	2500	W <b>5348</b>	<b>5620</b>	<b>0</b>
<b>61/.103</b>	<b>.5</b>	.121	.25	3.013	29725	2500	W <b>5350</b>	<b>6770</b>	<b>0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

**S.E.C.****PIRELLI GENERAL****C.M.A.**
 Regd. Trade  
 Mark (No.  
 422219/20/21).
**“C.M.A.” CABLES****SINGLE CORE****TOUGH RUBBER SHEATHED****660 VOLT GRADE—CLASS No. 451.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

No. and diameter of conductors	Nominal area.	Thickness of Insulation.	Thickness of Solid Rubber Sheathing.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
No. ins.	Sq. ins.	ins.	ins.	ins.	lb.		£ s.
1/.036	.001	.055	.05	.246	115	W 5600	40 0
1/.044	.0015	.055	.05	.254	127	W 5602	43 0
3/.029	.002	.056	.05	.274	150	W 5604	49 0
1/.064	.003	.057	.05	.278	165	W 5606	51 0
3/.036	.003	.057	.05	.292	176	W 5608	55 10
7/.029	.0045	.058	.05	.303	200	W 5610	63 0
7/.036	.007	.059	.05	.326	246	W 5612	73 0
7/.044	.01	.06	.06	.372	332	W 5614	98 0
7/.052	.0145	.061	.06	.398	405	W 5616	119 0
7/.064	.0225	.062	.06	.436	531	W 5618	147 0
19/.044	.03	.062	.06	.464	626	W 5620	178 0
19/.052	.04	.063	.06	.506	795	W 5622	232 0
19/.064	.06	.065	.06	.57	1108	W 5624	297 0
19/.072	.075	.066	.06	.612	1354	W 5626	344 0
19/.083	.1	.072	.08	.719	1837	W 5628	447 0
37/.064	.12	.075	.08	.758	2060	W 5630	511 0
37/.072	.15	.08	.08	.824	2522	W 5632	607 0
37/.083	.2	.088	.1	.957	3381	W 5634	780 0
37/.093	.25	.095	.1	1.041	4122	W 5636	935 0
37/.103	.3	.102	.1	1.125	4946	W 5638	1105 0
61/.093	.4	.114	.12	1.305	6645	W 5640	1475 0
61/.103	.5	.121	.12	1.409	7973	W 5642	1745 0
91/.093	.6	.125	.13	1.533	9572	W 5644	2085 0
91/.103	.75	.131	.13	1.655	11491	W 5646	2500 0
127/.093	.85	.135	.13	1.739	12933	W 5648	2810 0
127/.103	1	.141	.15	1.921	15837	W 5650	3380 0

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

# **"C.M.A." CABLES**

## **TWIN CORE (FLAT)**

### **TOUGH RUBBER SHEATHED**

**660 VOLT GRADE—CLASS No. 460.**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, the two cores laid side by side and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

No. and diameter of conductors.	Nominal area.	Thickness of Insulation.	Thickness of Solid Rubber Sheathing.	Approx. overall dimensions.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.		£ s.
<b>1/.036</b>	<b>.001</b>	.055	.06	.266 × .412	228	W <b>5652</b>	<b>69 0</b>
<b>1/.044</b>	<b>.0015</b>	.055	.06	.274 × .428	253	W <b>5654</b>	<b>76 0</b>
<b>3/.029</b>	<b>.002</b>	.056	.06	.294 × .468	304	W <b>5656</b>	<b>93 10</b>
<b>1/.064</b>	<b>.003</b>	.057	.06	.298 × .476	332	W <b>5658</b>	<b>97 10</b>
<b>3/.036</b>	<b>.003</b>	.057	.06	.312 × .504	358	W <b>5660</b>	<b>109 10</b>
<b>7/.029</b>	<b>.0045</b>	.058	.06	.323 × .526	405	W <b>5662</b>	<b>125 0</b>
<b>7/.036</b>	<b>.007</b>	.059	.06	.346 × .572	506	W <b>5664</b>	<b>148 0</b>
<b>7/.044</b>	<b>.01</b>	.06	.08	.412 × .664	711	W <b>5666</b>	<b>184 0</b>
<b>7/.052</b>	<b>.0145</b>	.061	.08	.438 × .716	866	W <b>5668</b>	<b>235 0</b>
<b>7/.064</b>	<b>.0225</b>	.062	.08	.476 × .792	1122	W <b>5670</b>	<b>311 0</b>
<b>19/.044</b>	<b>.03</b>	.062	.08	.504 × .848	1363	W <b>5672</b>	<b>380 0</b>
<b>19/.052</b>	<b>.04</b>	.063	.1	.586 × .972	1792	W <b>5674</b>	<b>500 0</b>
<b>19/.064</b>	<b>.06</b>	.065	.1	.65 × 1.1	2458	W <b>5676</b>	<b>671 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.1	.692 × 1.184	2985	W <b>5678</b>	<b>757 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.12	.799 × 1.358	3960	W <b>5680</b>	<b>964 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.12	.838 × 1.436	4459	W <b>5682</b>	<b>1104 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.13	.924 × 1.588	5540	W <b>5684</b>	<b>1329 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.15	1.057 × 1.814	7302	W <b>5686</b>	<b>1680 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10%** extra.

*For current carrying capacities see pages 17 to 21.*



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

## “C.M.A.” CABLES

### TWIN CORE (CIRCULAR)

**TOUGH RUBBER SHEATHED**

**660 VOLT GRADE—CLASS No. 461.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber; the two cores then twisted together and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

No. and diameter of conductors.	Nominal area.	Thickness of Insulation.	Thickness of Solid Rubber Sheathing.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.		£ s.
<b>1/.036</b>	<b>.001</b>	.055	.06	.412	317	W <b>5688</b>	<b>98 0</b>
<b>1/.044</b>	<b>.0015</b>	.055	.06	.428	350	W <b>5690</b>	<b>109 0</b>
<b>3/.029</b>	<b>.002</b>	.056	.06	.468	414	W <b>5692</b>	<b>128 0</b>
<b>1/.064</b>	<b>.003</b>	.057	.06	.476	459	W <b>5694</b>	<b>132 0</b>
<b>3/.036</b>	<b>.003</b>	.057	.06	.504	504	W <b>5696</b>	<b>149 10</b>
<b>7/.029</b>	<b>.0045</b>	.058	.06	.526	567	W <b>5698</b>	<b>171 10</b>
<b>7/.036</b>	<b>.007</b>	.059	.06	.572	701	W <b>5700</b>	<b>201 0</b>
<b>7/.044</b>	<b>.01</b>	.06	.08	.664	963	W <b>5702</b>	<b>273 0</b>
<b>7/.052</b>	<b>.0145</b>	.061	.08	.716	1167	W <b>5704</b>	<b>333 0</b>
<b>7/.064</b>	<b>.0225</b>	.062	.08	.792	1500	W <b>5706</b>	<b>415 0</b>
<b>19/.044</b>	<b>.03</b>	.062	.08	.848	1820	W <b>5708</b>	<b>495 0</b>
<b>19/.052</b>	<b>.04</b>	.063	.1	.972	2360	W <b>5710</b>	<b>642 0</b>
<b>19/.064</b>	<b>.06</b>	.065	.1	1.1	3198	W <b>5712</b>	<b>827 0</b>
<b>19/.072</b>	<b>.075</b>	.066	.1	1.184	3875	W <b>5714</b>	<b>963 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.12	1.358	5118	W <b>5716</b>	<b>1233 0</b>
<b>37/.064</b>	<b>.12</b>	.075	.12	1.436	5768	W <b>5718</b>	<b>1413 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.13	1.58	7151	W <b>5720</b>	<b>1718 0</b>
<b>37/.083</b>	<b>.2</b>	.088	.15	1.814	9397	W <b>5722</b>	<b>2190 0</b>
<b>37/.093</b>	<b>.25</b>	.095	.15	1.982	11430	W <b>5724</b>	<b>2625 0</b>
<b>37/.103</b>	<b>.3</b>	.102	.175	2.2	14101	W <b>5726</b>	<b>3190 0</b>
<b>61/.093</b>	<b>.4</b>	.114	.2	2.53	18704	W <b>5728</b>	<b>4235 0</b>
<b>61/.103</b>	<b>.5</b>	.121	.225	2.788	22814	W <b>5730</b>	<b>5170 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

**"C.M.A." CABLES**  
**THREE CORE (CIRCULAR)**  
**TOUGH RUBBER SHEATHED**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21)

**660 VOLT GRADE—CLASS No. 471.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber ; the three cores then twisted together and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

No. and diameter of conductors.	Nominal area.	Thickness of Insulation.	Thickness of Solid Rubber Sheathing.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.		£	s.
<b>1/.036</b>	<b>.001</b>	<b>.055</b>	<b>.06</b>	<b>.434</b>	<b>361</b>	<b>W 5732</b>	<b>117</b>	<b>0</b>
<b>1/.044</b>	<b>.0015</b>	<b>.055</b>	<b>.06</b>	<b>.451</b>	<b>400</b>	<b>W 5734</b>	<b>129</b>	<b>0</b>
<b>3/.029</b>	<b>.002</b>	<b>.056</b>	<b>.06</b>	<b>.494</b>	<b>488</b>	<b>W 5736</b>	<b>157</b>	<b>0</b>
<b>1/.064</b>	<b>.003</b>	<b>.057</b>	<b>.06</b>	<b>.503</b>	<b>535</b>	<b>W 5738</b>	<b>164</b>	<b>0</b>
<b>3/.036</b>	<b>.003</b>	<b>.057</b>	<b>.06</b>	<b>.533</b>	<b>584</b>	<b>W 5740</b>	<b>183</b>	<b>0</b>
<b>7/.029</b>	<b>.0045</b>	<b>.058</b>	<b>.06</b>	<b>.556</b>	<b>665</b>	<b>W 5742</b>	<b>209</b>	<b>0</b>
<b>7/.036</b>	<b>.007</b>	<b>.059</b>	<b>.06</b>	<b>.606</b>	<b>833</b>	<b>W 5744</b>	<b>252</b>	<b>0</b>
<b>7/.044</b>	<b>.01</b>	<b>.06</b>	<b>.08</b>	<b>.702</b>	<b>1147</b>	<b>W 5746</b>	<b>333</b>	<b>0</b>
<b>7/.052</b>	<b>.0145</b>	<b>.061</b>	<b>.08</b>	<b>.758</b>	<b>1406</b>	<b>W 5748</b>	<b>412</b>	<b>0</b>
<b>7/.064</b>	<b>.0225</b>	<b>.062</b>	<b>.08</b>	<b>.839</b>	<b>1848</b>	<b>W 5750</b>	<b>520</b>	<b>0</b>
<b>19/.044</b>	<b>.03</b>	<b>.062</b>	<b>.1</b>	<b>.94</b>	<b>2242</b>	<b>W 5752</b>	<b>630</b>	<b>0</b>
<b>19/.052</b>	<b>.04</b>	<b>.063</b>	<b>.1</b>	<b>1.03</b>	<b>2932</b>	<b>W 5754</b>	<b>818</b>	<b>0</b>
<b>19/.064</b>	<b>.06</b>	<b>.065</b>	<b>.1</b>	<b>1.168</b>	<b>4032</b>	<b>W 5756</b>	<b>1071</b>	<b>0</b>
<b>19/.072</b>	<b>.075</b>	<b>.066</b>	<b>.12</b>	<b>1.298</b>	<b>5078</b>	<b>W 5758</b>	<b>1272</b>	<b>0</b>
<b>19/.083</b>	<b>.1</b>	<b>.072</b>	<b>.12</b>	<b>1.442</b>	<b>6478</b>	<b>W 5760</b>	<b>1582</b>	<b>0</b>
<b>37/.064</b>	<b>.12</b>	<b>.075</b>	<b>.13</b>	<b>1.546</b>	<b>7426</b>	<b>W 5762</b>	<b>1837</b>	<b>0</b>
<b>37/.072</b>	<b>.15</b>	<b>.08</b>	<b>.13</b>	<b>1.688</b>	<b>9091</b>	<b>W 5764</b>	<b>2206</b>	<b>0</b>
<b>37/.083</b>	<b>.2</b>	<b>.088</b>	<b>.15</b>	<b>1.928</b>	<b>11967</b>	<b>W 5766</b>	<b>2805</b>	<b>0</b>
<b>37/.093</b>	<b>.25</b>	<b>.095</b>	<b>.175</b>	<b>2.158</b>	<b>14997</b>	<b>W 5768</b>	<b>3450</b>	<b>0</b>
<b>37/.103</b>	<b>.3</b>	<b>.102</b>	<b>.175</b>	<b>2.339</b>	<b>17965</b>	<b>W 5770</b>	<b>4085</b>	<b>0</b>
<b>61/.093</b>	<b>.4</b>	<b>.114</b>	<b>.225</b>	<b>2.74</b>	<b>24394</b>	<b>W 5772</b>	<b>5620</b>	<b>0</b>
<b>61/.103</b>	<b>.5</b>	<b>.121</b>	<b>.25</b>	<b>3.013</b>	<b>29725</b>	<b>W 5774</b>	<b>6770</b>	<b>0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



# “C.M.A.” CABLES

## SINGLE CORE

“RHINO” TOUGH RUBBER SHEATHED

**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

(FLEXIBLE CONDUCTORS)

**600 MEGOHM GRADE—CLASS No. 431.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of solid rubber sheathing.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mille at 60° F.	Cat. No.	Price per 1000 yards.	
No./Ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£	s.
<b>97/.012</b>	<b>.01</b>	.043	.1	.436	414	900	W <b>5353</b>	<b>135</b>	<b>0</b>
<b>60/.018</b>	<b>.0145</b>	.046	.1	.457	502	900	W <b>5355</b>	<b>156</b>	<b>0</b>
<b>91/.018</b>	<b>.0225</b>	.049	.1	.503	643	900	W <b>5357</b>	<b>192</b>	<b>0</b>
<b>117/.018</b>	<b>.03</b>	.052	.1	.528	771	750	W <b>5359</b>	<b>231</b>	<b>0</b>
<b>163/.018</b>	<b>.04</b>	.056	.1	.592	999	750	W <b>5361</b>	<b>300</b>	<b>0</b>
<b>248/.018</b>	<b>.06</b>	.062	.1	.669	1380	750	W <b>5363</b>	<b>392</b>	<b>0</b>
<b>121/.029</b>	<b>.075</b>	.066	.1	.712	1655	600	W <b>5365</b>	<b>437</b>	<b>0</b>
<b>160/.029</b>	<b>.1</b>	.072	.1	.784	2065	600	W <b>5367</b>	<b>524</b>	<b>0</b>
<b>186/.029</b>	<b>.12</b>	.075	.125	.875	2489	600	W <b>5369</b>	<b>618</b>	<b>0</b>
<b>235/.029</b>	<b>.15</b>	.08	.125	.96	3043	600	W <b>5371</b>	<b>734</b>	<b>0</b>
<b>312/.029</b>	<b>.2</b>	.088	.125	1.046	3822	600	W <b>5373</b>	<b>935</b>	<b>0</b>
<b>392/.029</b>	<b>.25</b>	.095	.125	1.14	4647	600	W <b>5375</b>	<b>1130</b>	<b>0</b>
<b>481/.029</b>	<b>.3</b>	.102	.125	1.234	5556	600	W <b>5377</b>	<b>1350</b>	<b>0</b>
<b>646/.029</b>	<b>.4</b>	.114	.15	1.428	7438	600	W <b>5379</b>	<b>1790</b>	<b>0</b>
<b>792/.029</b>	<b>.5</b>	.121	.15	1.612	8912	600	W <b>5381</b>	<b>2155</b>	<b>0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10%** extra.

Particulars of special types of T.R.S. flexible cables not listed in pages 96 to 107 of this Catalogue can be obtained on application.

*For current carrying capacities see pages 17 to 21.*



# "C.M.A." CABLES

## SINGLE CORE

"RHINO" TOUGH RUBBER SHEATHED

(FLEXIBLE CONDUCTORS)



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**2500 MEGOHM GRADE—CLASS No. 531.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of solid rubber sheath-ing.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>97/.012</b>	<b>.01</b>	.043	.1	.436	414	4000	W <b>5382</b>	<b>141 0</b>
<b>60/.018</b>	<b>.0145</b>	.046	.1	.457	502	4000	W <b>5384</b>	<b>164 0</b>
<b>91/.018</b>	<b>.0225</b>	.049	.1	.503	643	3500	W <b>5386</b>	<b>203 0</b>
<b>117/.018</b>	<b>.03</b>	.052	.1	.528	771	3500	W <b>5388</b>	<b>244 0</b>
<b>163/.018</b>	<b>.04</b>	.056	.1	.592	999	3000	W <b>5390</b>	<b>316 0</b>
<b>248/.018</b>	<b>.06</b>	.062	.1	.669	1380	3000	W <b>5392</b>	<b>416 0</b>
<b>121/.029</b>	<b>.075</b>	.066	.1	.712	1655	3000	W <b>5394</b>	<b>463 0</b>
<b>160/.029</b>	<b>.1</b>	.072	.1	.784	2065	3000	W <b>5396</b>	<b>555 0</b>
<b>186/.029</b>	<b>.12</b>	.075	.125	.875	2489	3000	W <b>5398</b>	<b>654 0</b>
<b>235/.029</b>	<b>.15</b>	.08	.125	.96	3043	3000	W <b>5400</b>	<b>778 0</b>
<b>312/.029</b>	<b>.2</b>	.088	.125	1.046	3822	2500	W <b>5402</b>	<b>990 0</b>
<b>392/.029</b>	<b>.25</b>	.095	.125	1.14	4647	2500	W <b>5404</b>	<b>1200 0</b>
<b>481/.029</b>	<b>.3</b>	.102	.125	1.234	5556	2500	W <b>5406</b>	<b>1435 0</b>
<b>646/.029</b>	<b>.4</b>	.114	.15	1.428	7438	2500	W <b>5408</b>	<b>1900 0</b>
<b>792/.029</b>	<b>.5</b>	.121	.15	1.612	8912	2500	W <b>5410</b>	<b>2295 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra**.  
Particulars of special types of T.R.S. flexible cables not listed in pages 96 to 107 of this Catalogue can be obtained on application.

*For current carrying capacities see pages 17 to 21.*



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

# “C.M.A.” CABLES

## TWIN CORE (CIRCULAR)

“RHINO” TOUGH RUBBER SHEATHED

(FLEXIBLE CONDUCTORS)

**600 MEGOHM GRADE—CLASS No. 432.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber ; the two cores then twisted together and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of solid rubber sheathing.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£	s.
<b>97/.012</b>	<b>.01</b>	.043	.1	.672	943	900	W <b>5413</b>	<b>299</b>	<b>0</b>
<b>60/.018</b>	<b>.0145</b>	.046	.1	.714	1174	900	W <b>5415</b>	<b>365</b>	<b>0</b>
<b>91/.018</b>	<b>.0225</b>	.049	.125	.856	1677	900	W <b>5417</b>	<b>486</b>	<b>0</b>
<b>117/.018</b>	<b>.03</b>	.052	.125	.906	2036	750	W <b>5419</b>	<b>580</b>	<b>0</b>
<b>163/.018</b>	<b>.04</b>	.056	.125	1.034	2677	750	W <b>5421</b>	<b>748</b>	<b>0</b>
<b>248/.018</b>	<b>.06</b>	.062	.125	1.188	3760	750	W <b>5423</b>	<b>1000</b>	<b>0</b>
<b>121/.029</b>	<b>.075</b>	.066	.125	1.274	4480	600	W <b>5425</b>	<b>1147</b>	<b>0</b>
<b>160/.029</b>	<b>.1</b>	.072	.15	1.468	5905	600	W <b>5427</b>	<b>1437</b>	<b>0</b>
<b>186/.029</b>	<b>.12</b>	.075	.15	1.55	6664	600	W <b>5429</b>	<b>1643</b>	<b>0</b>
<b>235/.029</b>	<b>.15</b>	.08	.15	1.72	8284	600	W <b>5431</b>	<b>1987</b>	<b>0</b>
<b>312/.029</b>	<b>.2</b>	.088	.15	1.892	10416	600	W <b>5433</b>	<b>2525</b>	<b>0</b>
<b>392/.029</b>	<b>.25</b>	.095	.175	2.13	13149	600	W <b>5435</b>	<b>3140</b>	<b>0</b>
<b>481/.029</b>	<b>.3</b>	.102	.175	2.315	15758	600	W <b>5437</b>	<b>3750</b>	<b>0</b>
<b>646/.029</b>	<b>.4</b>	.114	.225	2.706	21325	600	W <b>5439</b>	<b>4970</b>	<b>0</b>
<b>792/.029</b>	<b>.5</b>	.121	.25	3.124	26197	600	W <b>5441</b>	<b>6125</b>	<b>0</b>

Prices of Twin Cables with Insulated Earth Core, same as Three Core (see page 100).

Prices of Twin Cables with Uninsulated Earth Core, same as Three Core (see page 100) less 5%.

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, 10% extra.

Particulars of special types of T.R.S. flexible cables not listed in pages 96 to 107 of this Catalogue can be obtained on application.

*For current carrying capacities see pages 17 to 21.*

**"C.M.A." CABLES**

**TWIN CORE (CIRCULAR)**

**"RHINO" TOUGH RUBBER SHEATHED**

**(FLEXIBLE CONDUCTORS)**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**2500 MEGOHM GRADE—CLASS No. 532.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber ; the two cores then twisted together and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of solid rubber sheath-ing.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>97/.012</b>	<b>.01</b>	.043	.1	.672	943	4000	W <b>5442</b>	<b>313 0</b>
<b>60/.018</b>	<b>.0145</b>	.046	.1	.714	1174	4000	W <b>5444</b>	<b>383 0</b>
<b>91/.018</b>	<b>.0225</b>	.049	.125	.856	1677	3500	W <b>5446</b>	<b>510 0</b>
<b>117/.018</b>	<b>.03</b>	.052	.125	.906	2036	3500	W <b>5448</b>	<b>610 0</b>
<b>163/.018</b>	<b>.04</b>	.056	.125	1.034	2677	3000	W <b>5450</b>	<b>784 0</b>
<b>248/.018</b>	<b>.06</b>	.062	.125	1.188	3760	3000	W <b>5452</b>	<b>1050 0</b>
<b>121/.029</b>	<b>.075</b>	.066	.125	1.274	4480	3000	W <b>5454</b>	<b>1204 0</b>
<b>160/.029</b>	<b>.1</b>	.072	.15	1.468	5905	3000	W <b>5456</b>	<b>1505 0</b>
<b>186/.029</b>	<b>.12</b>	.075	.15	1.55	6664	3000	W <b>5458</b>	<b>1721 0</b>
<b>235/.029</b>	<b>.15</b>	.08	.15	1.72	8284	3000	W <b>5460</b>	<b>2082 0</b>
<b>312/.029</b>	<b>.2</b>	.088	.15	1.892	10416	2500	W <b>5462</b>	<b>2645 0</b>
<b>392/.029</b>	<b>.25</b>	.095	.175	2.13	13149	2500	W <b>5464</b>	<b>3290 0</b>
<b>481/.029</b>	<b>.3</b>	.102	.175	2.315	15758	2500	W <b>5466</b>	<b>3935 0</b>
<b>646/.029</b>	<b>.4</b>	.114	.225	2.706	21325	2500	W <b>5468</b>	<b>5220 0</b>
<b>792/.029</b>	<b>.5</b>	.121	.25	3.124	26197	2500	W <b>5470</b>	<b>6425 0</b>

Prices of Twin Cables with Insulated Earth Core, same as Three Core (*see page 101*).

Prices of Twin Cables with Uninsulated Earth Core, same as Three Core (*see page 101*) less 5%.

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, 10% extra.

Particulars of special types of T.R.S. flexible cables not listed in pages 96 to 107 of this Catalogue can be obtained on application.

*For current carrying capacities see pages 17 to 21.*



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

## "C.M.A." CABLES

### THREE CORE (CIRCULAR)

**"RHINO" TOUGH RUBBER SHEATHED**

**(FLEXIBLE CONDUCTORS)**

**600 MEGOHM GRADE—CLASS No. 433.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber; the three cores then twisted together and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of solid rubber sheath-ing.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£	s.
<b>97/.012</b>	<b>.01</b>	.043	.1	.707	1123	900	W <b>5473</b>	<b>373</b>	<b>0</b>
<b>60/.018</b>	<b>.0145</b>	.046	.1	.753	1413	900	W <b>5475</b>	<b>451</b>	<b>0</b>
<b>91/.018</b>	<b>.0225</b>	.049	.125	.901	2027	900	W <b>5477</b>	<b>608</b>	<b>0</b>
<b>117/.018</b>	<b>.03</b>	.052	.125	.955	2479	750	W <b>5479</b>	<b>730</b>	<b>0</b>
<b>163/.018</b>	<b>.04</b>	.056	.125	1.093	3284	750	W <b>5481</b>	<b>948</b>	<b>0</b>
<b>248/.018</b>	<b>.06</b>	.062	.125	1.258	4658	750	W <b>5483</b>	<b>1293</b>	<b>0</b>
<b>121/.029</b>	<b>.075</b>	.066	.125	1.351	5608	600	W <b>5485</b>	<b>1456</b>	<b>0</b>
<b>160/.029</b>	<b>.1</b>	.072	.15	1.556	7381	600	W <b>5487</b>	<b>1808</b>	<b>0</b>
<b>186/.029</b>	<b>.12</b>	.075	.15	1.644	8363	600	W <b>5489</b>	<b>2072</b>	<b>0</b>
<b>235/.029</b>	<b>.15</b>	.08	.15	1.826	10398	600	W <b>5491</b>	<b>2540</b>	<b>0</b>
<b>312/.029</b>	<b>.2</b>	.088	.15	2.011	13171	600	W <b>5493</b>	<b>3230</b>	<b>0</b>
<b>392/.029</b>	<b>.25</b>	.095	.175	2.263	16565	600	W <b>5495</b>	<b>4025</b>	<b>0</b>

Prices of Three Core Cables with Insulated Earth Core, same as Four Core (*see page 102*).  
Prices of Three Core Cables with Uninsulated Earth Core, same as Four Core (*see page 102*) less 5%.

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra**.  
Particulars of special types of T.R.S. flexible cables not listed in pages 96 to 107 of this Catalogue can be obtained on application.

*For current carrying capacities see pages 17 to 21.*

**"C.M.A." CABLES**

**THREE CORE (CIRCULAR)**

**"RHINO" TOUGH RUBBER SHEATHED**

**(FLEXIBLE CONDUCTORS)**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**2500 MEGOHM GRADE—CLASS No. 533.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber; the three cores then twisted together and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of solid rubber sheathing.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 80° F.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£	s.
<b>97/.012</b>	<b>.01</b>	<b>.043</b>	<b>.1</b>	<b>.707</b>	<b>1123</b>	<b>4000</b>	<b>W 5496</b>	<b>395</b>	<b>0</b>
<b>60/.018</b>	<b>.0145</b>	<b>.046</b>	<b>.1</b>	<b>.753</b>	<b>1413</b>	<b>4000</b>	<b>W 5498</b>	<b>478</b>	<b>0</b>
<b>91/.018</b>	<b>.0225</b>	<b>.049</b>	<b>.125</b>	<b>.901</b>	<b>2027</b>	<b>3500</b>	<b>W 5500</b>	<b>643</b>	<b>0</b>
<b>117/.018</b>	<b>.03</b>	<b>.052</b>	<b>.125</b>	<b>.955</b>	<b>2479</b>	<b>3500</b>	<b>W 5502</b>	<b>770</b>	<b>0</b>
<b>163/.018</b>	<b>.04</b>	<b>.056</b>	<b>.125</b>	<b>1.093</b>	<b>3284</b>	<b>3000</b>	<b>W 5504</b>	<b>1002</b>	<b>0</b>
<b>248/.018</b>	<b>.06</b>	<b>.062</b>	<b>.125</b>	<b>1.258</b>	<b>4658</b>	<b>3000</b>	<b>W 5506</b>	<b>1368</b>	<b>0</b>
<b>121/.029</b>	<b>.075</b>	<b>.066</b>	<b>.125</b>	<b>1.351</b>	<b>5608</b>	<b>3000</b>	<b>W 5508</b>	<b>1542</b>	<b>0</b>
<b>160/.029</b>	<b>.1</b>	<b>.072</b>	<b>.15</b>	<b>1.556</b>	<b>7381</b>	<b>3000</b>	<b>W 5510</b>	<b>1909</b>	<b>0</b>
<b>186/.029</b>	<b>.12</b>	<b>.075</b>	<b>.15</b>	<b>1.644</b>	<b>8363</b>	<b>3000</b>	<b>W 5512</b>	<b>2189</b>	<b>0</b>
<b>235/.029</b>	<b>.15</b>	<b>.08</b>	<b>.15</b>	<b>1.826</b>	<b>10398</b>	<b>3000</b>	<b>W 5514</b>	<b>2682</b>	<b>0</b>
<b>312/.029</b>	<b>.2</b>	<b>.088</b>	<b>.15</b>	<b>2.011</b>	<b>13171</b>	<b>2500</b>	<b>W 5516</b>	<b>3415</b>	<b>0</b>
<b>392/.029</b>	<b>.25</b>	<b>.095</b>	<b>.175</b>	<b>2.263</b>	<b>16565</b>	<b>2500</b>	<b>W 5518</b>	<b>4250</b>	<b>0</b>

Prices of Three Core Cables with Insulated Earth Core, same as Four Core (see page 103).

Prices of Three Core Cables with Uninsulated Earth Core, same as Four Core (see page 103) less **5%**.

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10%** extra.

Particulars of special types of T.R.S. flexible cables not listed in pages 96 to 107 of this Catalogue can be obtained on application.

*For current carrying capacities see pages 17 to 21.*

**S.E.C.****PIRELLI GENERAL****C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**"C.M.A." CABLES****FOUR CORE (CIRCULAR)****"RHINO" TOUGH RUBBER SHEATHED****(FLEXIBLE CONDUCTORS)****600 MEGOHM GRADE—CLASS No. 434.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber; the four cores then twisted together and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of solid rubber sheathing.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mille at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>97/.012</b>	<b>.01</b>	.043	.1	.771	1369	900	W <b>5521</b>	<b>473 0</b>
<b>60/.018</b>	<b>.0145</b>	.046	.125	.872	1870	900	W <b>5523</b>	<b>582 0</b>
<b>91/.018</b>	<b>.0225</b>	.049	.125	.983	2486	900	W <b>5525</b>	<b>754 0</b>
<b>117/.018</b>	<b>.03</b>	.052	.125	1.044	3060	750	W <b>5527</b>	<b>910 0</b>
<b>163/.018</b>	<b>.04</b>	.056	.125	1.199	4082	750	W <b>5529</b>	<b>1194 0</b>
<b>248/.018</b>	<b>.06</b>	.062	.15	1.435	6082	750	W <b>5531</b>	<b>1663 0</b>
<b>121/.029</b>	<b>.075</b>	.066	.15	1.539	7314	600	W <b>5533</b>	<b>1880 0</b>
<b>160/.029</b>	<b>.1</b>	.072	.15	1.713	9262	600	W <b>5535</b>	<b>2282 0</b>
<b>186/.029</b>	<b>.12</b>	.075	.15	1.812	10517	600	W <b>5537</b>	<b>2620 0</b>
<b>235/.029</b>	<b>.15</b>	.08	.15	2.018	13093	600	W <b>5539</b>	<b>3208 0</b>
<b>312/.029</b>	<b>.2</b>	.088	.175	2.276	17069	600	W <b>5541</b>	<b>4185 0</b>
<b>392/.029</b>	<b>.25</b>	.095	.2	2.554	21392	600	W <b>5543</b>	<b>5200 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

Particulars of special types of T.R.S. flexible cables not listed in pages 96 to 107 of this Catalogue can be obtained on application.

*For current carrying capacities see pages 17 to 21.*

**"C.M.A." CABLES**

**FOUR CORE (CIRCULAR)**

**"RHINO" TOUGH RUBBER SHEATHED**

**(FLEXIBLE CONDUCTORS)**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**2500 MEGOHM GRADE—CLASS No. 534.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber; the four cores then twisted together and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of solid rubber sheath-ing.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 80° F.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£	s.
<b>97/.012</b>	<b>.01</b>	<b>.043</b>	<b>.1</b>	<b>.771</b>	<b>1369</b>	<b>4000</b>	<b>W 5544</b>	<b>502</b>	<b>0</b>
<b>60/.018</b>	<b>.0145</b>	<b>.046</b>	<b>.125</b>	<b>.872</b>	<b>1870</b>	<b>4000</b>	<b>W 5546</b>	<b>619</b>	<b>0</b>
<b>91/.018</b>	<b>.0225</b>	<b>.049</b>	<b>.125</b>	<b>.983</b>	<b>2486</b>	<b>3500</b>	<b>W 5548</b>	<b>801</b>	<b>0</b>
<b>117/.018</b>	<b>.03</b>	<b>.052</b>	<b>.125</b>	<b>1.044</b>	<b>3060</b>	<b>3500</b>	<b>W 5550</b>	<b>970</b>	<b>0</b>
<b>163/.018</b>	<b>.04</b>	<b>.056</b>	<b>.125</b>	<b>1.199</b>	<b>4082</b>	<b>3000</b>	<b>W 5552</b>	<b>1266</b>	<b>0</b>
<b>248/.018</b>	<b>.06</b>	<b>.062</b>	<b>.15</b>	<b>1.435</b>	<b>6082</b>	<b>3000</b>	<b>W 5554</b>	<b>1763</b>	<b>0</b>
<b>121/.029</b>	<b>.075</b>	<b>.066</b>	<b>.15</b>	<b>1.539</b>	<b>7314</b>	<b>3000</b>	<b>W 5556</b>	<b>1993</b>	<b>0</b>
<b>160/.029</b>	<b>.1</b>	<b>.072</b>	<b>.15</b>	<b>1.713</b>	<b>9262</b>	<b>3000</b>	<b>W 5558</b>	<b>2416</b>	<b>0</b>
<b>186/.029</b>	<b>.12</b>	<b>.075</b>	<b>.15</b>	<b>1.812</b>	<b>10517</b>	<b>3000</b>	<b>W 5560</b>	<b>2777</b>	<b>0</b>
<b>235/.029</b>	<b>.15</b>	<b>.08</b>	<b>.15</b>	<b>2.018</b>	<b>13093</b>	<b>3000</b>	<b>W 5562</b>	<b>3397</b>	<b>0</b>
<b>312/.029</b>	<b>.2</b>	<b>.088</b>	<b>.175</b>	<b>2.276</b>	<b>17069</b>	<b>2500</b>	<b>W 5564</b>	<b>4430</b>	<b>0</b>
<b>392/.029</b>	<b>.25</b>	<b>.095</b>	<b>.2</b>	<b>2.554</b>	<b>21392</b>	<b>2500</b>	<b>W 5566</b>	<b>5545</b>	<b>0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10%** extra.

Particulars of special types of T.R.S. flexible cables not listed in pages 96 to 107 of this Catalogue can be obtained on application.

*For current carrying capacities see pages 17 to 21.*

**S.E.C.****PIRELLI GENERAL****C.M.A.**
 Regd. Trade  
 Mark (No.  
 42219/20/21).

# “C.M.A.” CABLES

## SINGLE CORE

**“RHINO” TOUGH RUBBER SHEATHED**
**(FLEXIBLE CONDUCTORS)**
**660 VOLT GRADE—CLASS No. 481.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

No. and diameter of conductors.	Nominal area.	Thickness of Insulation.	Thickness of Solid Rubber Sheathing.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.		£	s.
<b>97/.012</b>	<b>.01</b>	.06	.1	.47	457	W <b>5776</b>	<b>150</b>	<b>0</b>
<b>60/.018</b>	<b>.0145</b>	.061	.1	.487	540	W <b>5778</b>	<b>171</b>	<b>0</b>
<b>91/.018</b>	<b>.0225</b>	.062	.1	.529	676	W <b>5780</b>	<b>209</b>	<b>0</b>
<b>117/.018</b>	<b>.03</b>	.062	.1	.548	796	W <b>5782</b>	<b>246</b>	<b>0</b>
<b>163/.018</b>	<b>.04</b>	.063	.1	.606	1009	W <b>5784</b>	<b>311</b>	<b>0</b>
<b>248/.018</b>	<b>.06</b>	.065	.1	.675	1380	W <b>5786</b>	<b>403</b>	<b>0</b>
<b>121/.029</b>	<b>.075</b>	.066	.1	.712	1655	W <b>5788</b>	<b>463</b>	<b>0</b>
<b>160/.029</b>	<b>.1</b>	.072	.1	.784	2065	W <b>5790</b>	<b>555</b>	<b>0</b>
<b>186/.029</b>	<b>.12</b>	.075	.125	.875	2489	W <b>5792</b>	<b>654</b>	<b>0</b>
<b>235/.029</b>	<b>.15</b>	.08	.125	.96	3043	W <b>5794</b>	<b>778</b>	<b>0</b>
<b>312/.029</b>	<b>.2</b>	.088	.125	1.064	3822	W <b>5796</b>	<b>980</b>	<b>0</b>
<b>392/.029</b>	<b>.25</b>	.095	.125	1.14	4647	W <b>5798</b>	<b>1200</b>	<b>0</b>
<b>481/.029</b>	<b>.3</b>	.102	.125	1.234	5556	W <b>5800</b>	<b>1435</b>	<b>0</b>
<b>646/.029</b>	<b>.4</b>	.114	.15	1.428	7438	W <b>5802</b>	<b>1900</b>	<b>0</b>
<b>792/.029</b>	<b>.5</b>	.121	.15	1.612	8912	W <b>5804</b>	<b>2295</b>	<b>0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra**. Particulars of special types of T.R.S. flexible not listed in pages 96 to 107 of this Catalogue can be obtained on application.

*For current carrying capacities see pages 17 to 21.*



# **"C.M.A." CABLES**

## **TWIN CORE (CIRCULAR)**

### **"RHINO" TOUGH RUBBER SHEATHED**

#### **(FLEXIBLE CONDUCTORS)**

#### **660 VOLT GRADE—CLASS No. 482.**


**C.M.A.**

 Regd. Trade  
Mark (No.  
422219/20/21).

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, the two cores then twisted together and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

No. and diameter of conductors.	Nominal area.	Thickness of Insulation.	Thickness of Solid Rubber Sheathing.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.		£ s.
<b>97/.012</b>	<b>.01</b>	<b>.06</b>	<b>.1</b>	<b>.74</b>	<b>1089</b>	<b>W 5806</b>	<b>357 0</b>
<b>60/.018</b>	<b>.0145</b>	<b>.061</b>	<b>.1</b>	<b>.774</b>	<b>1296</b>	<b>W 5808</b>	<b>411 0</b>
<b>91/.018</b>	<b>.0225</b>	<b>.062</b>	<b>.125</b>	<b>.908</b>	<b>1809</b>	<b>W 5810</b>	<b>537 0</b>
<b>117/.018</b>	<b>.03</b>	<b>.062</b>	<b>.125</b>	<b>.946</b>	<b>2143</b>	<b>W 5812</b>	<b>630 0</b>
<b>163/.018</b>	<b>.04</b>	<b>.063</b>	<b>.125</b>	<b>1.062</b>	<b>2740</b>	<b>W 5814</b>	<b>785 0</b>
<b>248/.018</b>	<b>.06</b>	<b>.065</b>	<b>.125</b>	<b>1.2</b>	<b>3769</b>	<b>W 5816</b>	<b>1028 0</b>
<b>121/.029</b>	<b>.075</b>	<b>.066</b>	<b>.125</b>	<b>1.274</b>	<b>4480</b>	<b>W 5818</b>	<b>1204 0</b>
<b>160/.029</b>	<b>.1</b>	<b>.072</b>	<b>.15</b>	<b>1.468</b>	<b>5905</b>	<b>W 5820</b>	<b>1505 0</b>
<b>186/.029</b>	<b>.12</b>	<b>.075</b>	<b>.15</b>	<b>1.55</b>	<b>6664</b>	<b>W 5822</b>	<b>1721 0</b>
<b>235/.029</b>	<b>.15</b>	<b>.08</b>	<b>.15</b>	<b>1.72</b>	<b>8284</b>	<b>W 5824</b>	<b>2082 0</b>
<b>312/.029</b>	<b>.2</b>	<b>.088</b>	<b>.15</b>	<b>1.892</b>	<b>10416</b>	<b>W 5826</b>	<b>2645 0</b>
<b>392/.029</b>	<b>.25</b>	<b>.095</b>	<b>.175</b>	<b>2.13</b>	<b>13149</b>	<b>W 5828</b>	<b>3290 0</b>
<b>481/.029</b>	<b>.3</b>	<b>.102</b>	<b>.175</b>	<b>2.318</b>	<b>15758</b>	<b>W 5830</b>	<b>3935 0</b>
<b>646/.029</b>	<b>.4</b>	<b>.114</b>	<b>.225</b>	<b>2.706</b>	<b>21325</b>	<b>W 5832</b>	<b>5220 0</b>
<b>792/.029</b>	<b>.5</b>	<b>.121</b>	<b>.25</b>	<b>3.124</b>	<b>26197</b>	<b>W 5834</b>	<b>6425 0</b>

Prices of Twin Cables with Insulated Earth Core, same as Three Core (*see page 106*).  
 Prices of Twin Cables with Uninsulated Earth Core, same as Three Core (*see page 106*) less **5%**.  
 Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10%** extra.  
 Particulars of special types of T.R.S. flexible not listed in pages 96 to 107 of this Catalogue can be obtained on application.

*For current carrying capacities see pages 17 to 21.*



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

## “C.M.A.” CABLES

### THREE CORE (CIRCULAR)

“RHINO” TOUGH RUBBER SHEATHED

(FLEXIBLE CONDUCTORS)

**660 VOLT GRADE—CLASS No. 483.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber; the three cores then twisted together and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

No. and diameter of conductors.	Nominal area.	Thickness of Insulation.	Thickness of Solid Rubber Sheathing.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.		£	s.
<b>97/.012</b>	<b>.01</b>	.06	.1	.78	1271	W <b>5836</b>	<b>441</b>	<b>0</b>
<b>60/.018</b>	<b>.0145</b>	.061	.125	.867	1693	W <b>5838</b>	<b>530</b>	<b>0</b>
<b>91/.018</b>	<b>.0225</b>	.062	.125	.957	2168	W <b>5840</b>	<b>663</b>	<b>0</b>
<b>117/.018</b>	<b>.03</b>	.062	.125	.998	2519	W <b>5842</b>	<b>790</b>	<b>0</b>
<b>163/.018</b>	<b>.04</b>	.063	.125	1.123	3349	W <b>5844</b>	<b>1003</b>	<b>0</b>
<b>248/.018</b>	<b>.06</b>	.065	.125	1.271	4658	W <b>5846</b>	<b>1331</b>	<b>0</b>
<b>121/.029</b>	<b>.075</b>	.066	.125	1.351	5608	W <b>5848</b>	<b>1542</b>	<b>0</b>
<b>160/.029</b>	<b>.1</b>	.072	.15	1.556	7381	W <b>5850</b>	<b>1909</b>	<b>0</b>
<b>186/.029</b>	<b>.12</b>	.075	.15	1.644	8363	W <b>5852</b>	<b>2189</b>	<b>0</b>
<b>235/.029</b>	<b>.15</b>	.08	.15	1.826	10398	W <b>5854</b>	<b>2682</b>	<b>0</b>
<b>312/.029</b>	<b>.2</b>	.088	.15	2.011	13171	W <b>5856</b>	<b>3415</b>	<b>0</b>
<b>392/.029</b>	<b>.25</b>	.095	.175	2.263	16565	W <b>5858</b>	<b>4250</b>	<b>0</b>

Prices of Three Core Cables with Insulated Earth Core, same as Four Core (*see page 107*).  
Prices of Three Core Cables with Uninsulated Earth Core, same as Four Core (*see page 107*)  
less **5%**

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10%** extra.

Particulars of special types of T.R.S. flexible not listed in pages 96 to 107 of this Catalogue can be obtained on application.

*For current carrying capacities see pages 17 to 21.*

**"C.M.A." CABLES**

**FOUR CORE (CIRCULAR)**

**"RHINO" TOUGH RUBBER SHEATHED**

**(FLEXIBLE CONDUCTORS)**



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**660 VOLT GRADE—CLASS No. 484.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber ; the four cores then twisted together and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

No. and diameter of conductors.	Nominal area.	Thickness of Insulation.	Thickness of Solid Rubber Sheathing	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.		£	s.
<b>97/.012</b>	<b>.01</b>	.06	.125	.903	1692	<b>W 5860</b>	<b>567</b>	<b>0</b>
<b>60/.018</b>	<b>.0145</b>	.061	.125	.945	2057	<b>W 5862</b>	<b>657</b>	<b>0</b>
<b>91/.018</b>	<b>.0225</b>	.062	.125	1.046	2655	<b>W 5864</b>	<b>832</b>	<b>0</b>
<b>117/.018</b>	<b>.03</b>	.062	.125	1.092	3193	<b>W 5866</b>	<b>980</b>	<b>0</b>
<b>163/.018</b>	<b>.04</b>	.063	.125	1.233	4152	<b>W 5868</b>	<b>1257</b>	<b>0</b>
<b>248/.018</b>	<b>.06</b>	.065	.15	1.449	6082	<b>W 5870</b>	<b>1719</b>	<b>0</b>
<b>121/.029</b>	<b>.075</b>	.066	.15	1.539	7314	<b>W 5872</b>	<b>1993</b>	<b>0</b>
<b>160/.029</b>	<b>.1</b>	.072	.15	1.713	9262	<b>W 5874</b>	<b>2416</b>	<b>0</b>
<b>186/.029</b>	<b>.12</b>	.075	.15	1.812	10517	<b>W 5876</b>	<b>2777</b>	<b>0</b>
<b>235/.029</b>	<b>.15</b>	.08	.15	2.018	13093	<b>W 5878</b>	<b>3397</b>	<b>0</b>
<b>312/.029</b>	<b>.2</b>	.088	.175	2.276	17069	<b>W 5880</b>	<b>4430</b>	<b>0</b>
<b>392/.029</b>	<b>.25</b>	.095	.2	2.554	21392	<b>W 5882</b>	<b>5545</b>	<b>0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

Particulars of special types of T.R.S. flexible not listed in pages 96 to 107 of this Catalogue can be obtained on application.

*For current carrying capacities see pages 17 to 21.*

## BRAIDED AERIAL CABLES

**SPECIFICATION.**—Conductors of high conductivity hard drawn copper wire, braided with raw cotton (the number of braids being as specified below), and each braid thoroughly impregnated with weather-resisting preservative compound.

No. and diameter of conductors.	Nominal area.	Single Braided. CLASS No. 600.		Double Braided. CLASS No. 601.		Triple Braided. CLASS No. 602.	
		Cat. No.	Approx. weight per 1000 yds.	Cat. No.	Approx. weight per 1000 yds.	Cat. No.	Approx. weight per 1000 yds.
No./ins.	Sq. ins.		lb.		lb.		lb.
<b>1/.044</b>	<b>.0015</b>	W <b>6001</b>	28	W <b>6039</b>	47	W <b>6077</b>	74
<b>1/.064</b>	<b>.003</b>	W <b>6003</b>	50	W <b>6041</b>	71	W <b>6079</b>	102
<b>1/.083</b>	<b>.0054</b>	W <b>6005</b>	78	W <b>6043</b>	103	W <b>6081</b>	135
<b>1/.104</b>	<b>.0084</b>	W <b>6007</b>	115	W <b>6045</b>	143	W <b>6083</b>	179
<b>1/.128</b>	<b>.0128</b>	W <b>6009</b>	160	W <b>6047</b>	180	W <b>6085</b>	200
<b>1/.160</b>	<b>.0201</b>	W <b>6011</b>	250	W <b>6049</b>	270	W <b>6087</b>	295
<b>1/.192</b>	<b>.0289</b>	W <b>6013</b>	355	W <b>6051</b>	380	W <b>6089</b>	405
<b>7/.036</b>	<b>.007</b>	W <b>6015</b>	105	W <b>6053</b>	133	W <b>6091</b>	170
<b>7/.044</b>	<b>.01</b>	W <b>6017</b>	150	W <b>6055</b>	181	W <b>6093</b>	224
<b>7/.064</b>	<b>.0225</b>	W <b>6019</b>	297	W <b>6057</b>	338	W <b>6095</b>	386
<b>7/.083</b>	<b>.0372</b>	W <b>6021</b>	515	W <b>6059</b>	604	W <b>6097</b>	714
<b>19/.064</b>	<b>.06</b>	W <b>6023</b>	806	W <b>6061</b>	912	W <b>6099</b>	1041
<b>19/.083</b>	<b>.1</b>	W <b>6025</b>	1318	W <b>6063</b>	1444	W <b>6101</b>	1592
<b>37/.072</b>	<b>.15</b>	W <b>6027</b>	1904	W <b>6065</b>	2055	W <b>6103</b>	2219
<b>37/.083</b>	<b>.2</b>	W <b>6029</b>	2509	W <b>6067</b>	2654	W <b>6105</b>	2867
<b>37/.093</b>	<b>.25</b>	W <b>6031</b>	3130	W <b>6069</b>	3304	W <b>6107</b>	3516
<b>37/.103</b>	<b>.3</b>	W <b>6033</b>	3813	W <b>6071</b>	4020	W <b>6109</b>	4244
<b>61/.093</b>	<b>.4</b>	W <b>6035</b>	5096	W <b>6073</b>	5320	W <b>6111</b>	5454
<b>61/.103</b>	<b>.5</b>	W <b>6037</b>	6227	W <b>6075</b>	6496	W <b>6113</b>	6764

Prices on application.

## “P.B.J.” CABLES

### CLASS No. 613.

These cables have conductors of bronze or hard drawn copper wire(s), lapped with two paper tapes, the whole impregnated with special oil compound, lapped with cotton, impregnated with special indestructible compound having red lead basis, braided with cotton, again impregnated with special indestructible compound having red lead basis, and smoothed overall.

The cotton lapping and braiding of these cables are saturated with a special indestructible compound, which gives the best protection from atmospheric and chemical action. Such cables have been used largely for lines that cross telegraph and telephone wires, preventing them being short circuited, but they are suitable for use in any position where corrosive or rotting action is possible. If properly installed they are extremely useful for chemical works, mines, shafts, foundries, bleaching works, tunnels, breweries, tanneries and other industries, especially where the atmosphere is laden with smoke and acid fumes.

The protective covering of these cables is fully weatherproof, making them particularly suitable for outdoor use. The insulation and external covering are impregnated with an indestructible compound whose chief characteristic is its gradual hardening, after the installation of the cable, with time and exposure, and the consequent improvement of the cable with age.

P.B.J. Wires and Cables are manufactured to comply with the G.P.O. tests and requirements so far as they are applicable. For abnormal conditions a modified form of cable is sometimes preferable, and full advice for such cases is available on request.

The ratings of the cables which figure in the subjoined table are based on a temperature rise of 100° Fahr. in still air and are safe for all normal outdoor positions in Great Britain and Ireland. In tropical climates or in other places where abnormally high temperatures may be encountered, a reduction factor of .8 should be employed.

Size.	Current.	Size.	Current.	Size.	Current.	Size.	Current.
Sq. ins.	Amps.	Sq. ins.	Amps.	Sq. ins.	Amps.	Sq. ins.	Amps.
.001	7	.0225	115	.125	380	.4	750
.0015	10	.025	130	.15	430	.5	870
.002	15	.03	145	.175	470	.6	990
.003	20	.04	175	.2	510	.75	1160
.0045	30	.05	200	.225	550	.85	1280
.007	45	.06	230	.25	580	1	1450
.01	60	.075	260	.3	640		
.0145	80	.1	320				

**Prices** for PIRELLI-GENERAL Braided Aerial Wires and Cables (see previous page) and for P.B.J. Wires and Cables depend chiefly on the market price of copper and will be quoted on receipt of enquiries.

**S.E.C.****FIRELLI GENERAL****NONAZO**
 Regd. Trade  
 Mark (No.  
 458865).
**"NONAZO" CABLES****SINGLE CORE****BRAIDED****600 MEGOHM CLASS—CLASS No. 701.**
**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, braided and compounded.

No. and diameter of conductors.	Nominal area.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	lb.	Megohms		£ s.
1/.036	.001	.141	48	2000	W <b>7001</b>	12 10
1/.044	.0015	.149	56	2000	W <b>7003</b>	14 0
3/.029	.002	.172	72	1250	W <b>7005</b>	17 10
1/.064	.003	.175	84	2000	W <b>7007</b>	18 10
3/.036	.003	.194	93	1250	W <b>7009</b>	21 0
7/.029	.0045	.205	114	1250	W <b>7011</b>	28 0
7/.036	.007	.235	161	900	W <b>7013</b>	34 0
7/.044	.01	.266	215	900	W <b>7015</b>	44 0
7/.052	.0145	.297	283	900	W <b>7017</b>	58 0
7/.064	.0225	.342	399	900	W <b>7019</b>	73 0
19/.044	.03	.377	502	750	W <b>7021</b>	90 0
19/.052	.04	.428	684	750	W <b>7023</b>	121 0
19/.064	.06	.503	988	750	W <b>7025</b>	165 0
19/.072	.075	.575	1228	600	W <b>7027</b>	202 0
19/.083	.1	.645	1596	600	W <b>7029</b>	258 0
37/.064	.12	.69	1820	600	W <b>7031</b>	299 0
37/.072	.15	.756	2258	600	W <b>7033</b>	365 0
37/.083	.2	.864	2931	600	W <b>7035</b>	465 0

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, 10% extra.

For current carrying capacities see pages 17 to 21.

# “NONAZO” CABLES

## SINGLE CORE

### LEAD COVERED

#### 600 MEGOHM CLASS—CLASS No. 703.



**NONAZO**

Regd. Trade  
Mark (No.  
458865).

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped and covered with a solid tube of lead.

No. and diameter of conductors.	Nominal area.	Thickness of Lead.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.04	.2	337	2000	W <b>7051</b>	<b>19 10</b>
<b>1/.044</b>	<b>.0015</b>	.04	.208	358	2000	W <b>7053</b>	<b>21 10</b>
<b>3/.029</b>	<b>.002</b>	.04	.23	408	1250	W <b>7055</b>	<b>26 0</b>
<b>1/.064</b>	<b>.003</b>	.04	.232	421	2000	W <b>7057</b>	<b>27 0</b>
<b>3/.036</b>	<b>.003</b>	.04	.25	463	1250	W <b>7059</b>	<b>30 0</b>
<b>7/.029</b>	<b>.0045</b>	.04	.261	503	1250	W <b>7061</b>	<b>35 10</b>
<b>7/.036</b>	<b>.007</b>	.05	.314	727	900	W <b>7063</b>	<b>47 0</b>
<b>7/.044</b>	<b>.01</b>	.05	.342	843	900	W <b>7065</b>	<b>59 0</b>
<b>7/.052</b>	<b>.0145</b>	.06	.392	1151	900	W <b>7067</b>	<b>77 0</b>
<b>7/.064</b>	<b>.0225</b>	.06	.434	1378	900	W <b>7069</b>	<b>97 0</b>
<b>19/.044</b>	<b>.03</b>	.06	.468	1548	750	W <b>7071</b>	<b>116 0</b>
<b>19/.052</b>	<b>.04</b>	.06	.516	1851	750	W <b>7073</b>	<b>149 0</b>
<b>19/.064</b>	<b>.06</b>	.07	.608	2613	750	W <b>7075</b>	<b>207 0</b>
<b>19/.072</b>	<b>.075</b>	.07	.656	2994	600	W <b>7077</b>	<b>247 0</b>
<b>19/.083</b>	<b>.1</b>	.07	.723	3560	600	W <b>7079</b>	<b>305 0</b>
<b>37/.064</b>	<b>.12</b>	.07	.762	3900	600	W <b>7081</b>	<b>350 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.848	4921	600	W <b>7083</b>	<b>432 0</b>
<b>37/.083</b>	<b>.2</b>	.08	.949	5929	600	W <b>7085</b>	<b>545 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



# “NONAZO” CABLES

## SINGLE CORE (NO LEAD)

**JUTE BEDDED AND SINGLE WIRE ARMoured**

**NONAZO**

**(ARMOURING LEFT BARE)**

Regd. Trade  
Mark (No.  
458865).

**600 MEGOHM CLASS—CLASS No. 704.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, jute bedded, compounded, and armoured with a layer of galvanized steel wires.

No. and diameter of conductors.	Nominal area.	Diameter of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.064	.328	442	2000	W <b>7101</b>	<b>35 0</b>
<b>1/.044</b>	<b>.0015</b>	.064	.336	449	2000	W <b>7103</b>	<b>37 0</b>
<b>3/.029</b>	<b>.002</b>	.064	.358	497	1250	W <b>7105</b>	<b>42 10</b>
<b>1/.064</b>	<b>.003</b>	.064	.36	510	2000	W <b>7107</b>	<b>43 10</b>
<b>3/.036</b>	<b>.003</b>	.064	.378	551	1250	W <b>7109</b>	<b>47 0</b>
<b>7/.029</b>	<b>.0045</b>	.064	.389	572	1250	W <b>7111</b>	<b>53 0</b>
<b>7/.036</b>	<b>.007</b>	.064	.422	676	900	W <b>7113</b>	<b>61 0</b>
<b>7/.044</b>	<b>.01</b>	.064	.45	775	900	W <b>7115</b>	<b>74 0</b>
<b>7/.052</b>	<b>.0145</b>	.064	.48	880	900	W <b>7117</b>	<b>87 0</b>
<b>7/.064</b>	<b>.0225</b>	.064	.522	1034	900	W <b>7119</b>	<b>108 0</b>
<b>19/.044</b>	<b>.03</b>	.064	.556	1189	750	W <b>7121</b>	<b>127 0</b>
<b>19/.052</b>	<b>.04</b>	.064	.604	1467	750	W <b>7123</b>	<b>161 0</b>
<b>19/.064</b>	<b>.06</b>	.072	.732	2082	750	W <b>7125</b>	<b>223 0</b>
<b>19/.072</b>	<b>.075</b>	.072	.78	2409	600	W <b>7127</b>	<b>263 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.847	2907	600	W <b>7129</b>	<b>323 0</b>
<b>37/.064</b>	<b>.12</b>	.072	.886	3175	600	W <b>7131</b>	<b>367 0</b>
<b>37/.072</b>	<b>.15</b>	.072	.952	3751	600	W <b>7133</b>	<b>439 0</b>
<b>37/.083</b>	<b>.2</b>	.072	1.053	4570	600	W <b>7135</b>	<b>550 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



# “NONAZO” CABLES

## SINGLE CORE (NO LEAD)

**JUTE BEDDED AND SINGLE WIRE ARMoured, AND  
SERVED OVERALL**



**NONAZO**

Regd. Trade  
Mark (No.  
458866).

**600 MEGOHM CLASS—CLASS No. 705.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, jute bedded, compounded, and armoured with a layer of galvanized steel wires, jute served and further compounded overall.

No. and diameter of conductors.	Nominal area.	Diameter of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mille at 60° F.	Cat. No.	Price per 1000 yards.
No./Ins.	Sq. ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.064	.448	557	2000	W <b>7151</b>	<b>51 0</b>
<b>1/.044</b>	<b>.0015</b>	.064	.456	567	2000	W <b>7153</b>	<b>53 10</b>
<b>3/.029</b>	<b>.002</b>	.064	.478	625	1250	W <b>7155</b>	<b>60 0</b>
<b>1/.064</b>	<b>.003</b>	.064	.48	637	2000	W <b>7157</b>	<b>61 0</b>
<b>3/.036</b>	<b>.003</b>	.064	.498	681	1250	W <b>7159</b>	<b>65 0</b>
<b>7/.029</b>	<b>.0045</b>	.064	.509	703	1250	W <b>7161</b>	<b>71 10</b>
<b>7/.036</b>	<b>.007</b>	.064	.542	818	900	W <b>7163</b>	<b>81 0</b>
<b>7/.044</b>	<b>.01</b>	.064	.57	926	900	W <b>7165</b>	<b>94 0</b>
<b>7/.052</b>	<b>.0145</b>	.064	.6	1038	900	W <b>7167</b>	<b>109 0</b>
<b>7/.064</b>	<b>.0225</b>	.064	.642	1327	900	W <b>7169</b>	<b>131 0</b>
<b>19/.044</b>	<b>.03</b>	.064	.676	1499	750	W <b>7171</b>	<b>151 0</b>
<b>19/.052</b>	<b>.04</b>	.064	.724	1805	750	W <b>7173</b>	<b>188 0</b>
<b>19/.064</b>	<b>.06</b>	.072	.852	2477	750	W <b>7175</b>	<b>254 0</b>
<b>19/.072</b>	<b>.075</b>	.072	.9	2826	600	W <b>7177</b>	<b>297 0</b>
<b>19/.083</b>	<b>.1</b>	.072	.967	3357	600	W <b>7179</b>	<b>369 0</b>
<b>37/.064</b>	<b>.12</b>	.072	1.006	3641	600	W <b>7181</b>	<b>404 0</b>
<b>37/.072</b>	<b>.15</b>	.072	1.072	4252	600	W <b>7183</b>	<b>479 0</b>
<b>37/.083</b>	<b>.2</b>	.072	1.173	5116	600	W <b>7185</b>	<b>630 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



**NONAZO**

Regd. Trade  
Mark (No.  
458865).

# “NONAZO” CABLES

## SINGLE CORE

LEAD COVERED AND SINGLE WIRE ARMoured

(ARMOURING LEFT BARE)

**600 MEGOHM CLASS—CLASS No. 706.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, covered with a solid tube of lead, jute bedded and compounded, and armoured with a layer of galvanized steel wires.

No. and diameter of conductors.	Nominal area.	Thick-ness of Lead.	Diam. of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms		£ s.
<b>1/.036</b>	<b>.001</b>	.04	.064	.408	880	2000	W <b>7201</b>	<b>55 10</b>
<b>1/.044</b>	<b>.0015</b>	.04	.064	.416	904	2000	W <b>7203</b>	<b>58 0</b>
<b>3/.029</b>	<b>.002</b>	.04	.064	.438	990	1250	W <b>7205</b>	<b>65 0</b>
<b>1/.064</b>	<b>.003</b>	.04	.064	.44	1004	2000	W <b>7207</b>	<b>66 0</b>
<b>3/.036</b>	<b>.003</b>	.04	.064	.458	1083	1250	W <b>7209</b>	<b>71 0</b>
<b>7/.029</b>	<b>.0045</b>	.04	.064	.469	1158	1250	W <b>7211</b>	<b>77 10</b>
<b>7/.036</b>	<b>.007</b>	.05	.064	.522	1458	900	W <b>7213</b>	<b>94 0</b>
<b>7/.044</b>	<b>.01</b>	.05	.064	.55	1605	900	W <b>7215</b>	<b>110 0</b>
<b>7/.052</b>	<b>.0145</b>	.06	.064	.6	1997	900	W <b>7217</b>	<b>132 0</b>
<b>7/.064</b>	<b>.0225</b>	.06	.072	.698	2576	900	W <b>7219</b>	<b>168 0</b>
<b>19/.044</b>	<b>.03</b>	.06	.072	.732	2804	750	W <b>7221</b>	<b>190 0</b>
<b>19/.052</b>	<b>.04</b>	.06	.072	.78	3212	750	W <b>7223</b>	<b>229 0</b>
<b>19/.064</b>	<b>.06</b>	.07	.072	.872	4181	750	W <b>7225</b>	<b>298 0</b>
<b>19/.072</b>	<b>.075</b>	.07	.072	.92	4631	600	W <b>7227</b>	<b>344 0</b>
<b>19/.083</b>	<b>.1</b>	.07	.072	.987	5342	600	W <b>7229</b>	<b>411 0</b>
<b>37/.064</b>	<b>.12</b>	.07	.072	1.026	5787	600	W <b>7231</b>	<b>462 0</b>
<b>37/.072</b>	<b>.15</b>	.08	.08	1.208	7352	600	W <b>7233</b>	<b>577 0</b>
<b>37/.083</b>	<b>.2</b>	.08	.08	1.309	8552	600	W <b>7235</b>	<b>700 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

**"NONAZO" CABLES**

**SINGLE CORE**

**LEAD COVERED, SINGLE WIRE ARMoured, AND  
SERVED OVERALL**



**NONAZO**

Regd. Trade  
Mark (No.  
458865).

**600 MEGOHM CLASS—CLASS No. 707.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, covered with a solid tube of lead, jute bedded and compounded, armoured with a layer of galvanized steel wires, jute served and further compounded overall.

No. and diameter of conductors.	Nominal area.	Thick-ness of Lead.	Diam. of Armour-ing Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£	s.
<b>1/.036</b>	<b>.001</b>	.04	.064	.528	1017	2000	W <b>7251</b>	<b>74</b>	<b>0</b>
<b>1/.044</b>	<b>.0015</b>	.04	.064	.536	1044	2000	W <b>7253</b>	<b>77</b>	<b>0</b>
<b>3/.029</b>	<b>.002</b>	.04	.064	.558	1139	1250	W <b>7255</b>	<b>84</b>	<b>10</b>
<b>1/.064</b>	<b>.003</b>	.04	.064	.56	1154	2000	W <b>7257</b>	<b>88</b>	<b>0</b>
<b>3/.036</b>	<b>.003</b>	.04	.064	.578	1236	1250	W <b>7259</b>	<b>91</b>	<b>0</b>
<b>7/.029</b>	<b>.0045</b>	.04	.064	.589	1315	1250	W <b>7261</b>	<b>98</b>	<b>10</b>
<b>7/.036</b>	<b>.007</b>	.05	.064	.642	1753	900	W <b>7263</b>	<b>116</b>	<b>0</b>
<b>7/.044</b>	<b>.01</b>	.05	.064	.67	1911	900	W <b>7265</b>	<b>134</b>	<b>0</b>
<b>7/.052</b>	<b>.0145</b>	.06	.064	.720	2334	900	W <b>7267</b>	<b>158</b>	<b>0</b>
<b>7/.064</b>	<b>.0225</b>	.06	.072	.818	2956	900	W <b>7269</b>	<b>198</b>	<b>0</b>
<b>19/.044</b>	<b>.03</b>	.06	.072	.852	3198	750	W <b>7271</b>	<b>221</b>	<b>0</b>
<b>19/.052</b>	<b>.04</b>	.06	.072	.9	3629	750	W <b>7273</b>	<b>262</b>	<b>0</b>
<b>19/.064</b>	<b>.06</b>	.07	.072	.992	4642	750	W <b>7275</b>	<b>334</b>	<b>0</b>
<b>19/.072</b>	<b>.075</b>	.07	.072	1.04	5118	600	W <b>7277</b>	<b>382</b>	<b>0</b>
<b>19/.083</b>	<b>.1</b>	.07	.072	1.107	5855	600	W <b>7279</b>	<b>451</b>	<b>0</b>
<b>37/.064</b>	<b>.12</b>	.07	.072	1.146	6320	600	W <b>7281</b>	<b>504</b>	<b>0</b>
<b>37/.072</b>	<b>.15</b>	.08	.08	1.408	7972	600	W <b>7283</b>	<b>638</b>	<b>0</b>
<b>37/.083</b>	<b>.2</b>	.08	.08	1.509	9220	600	W <b>7285</b>	<b>765</b>	<b>0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10%** extra.

*For current carrying capacities see pages 17 to 21.*



**NONAZO**

Regd. Trade  
Mark (No.  
458865).

# “NONAZO” CABLES

## TWIN FLAT

### BRAIDED

**600 MEGOHM CLASS—CLASS No. 710.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and two cores, one red and one black, laid side by side, braided and compounded.

No. and diameter of conductors.	Nominal area.	Approx. overall dimensions.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./Ins.	Sq. Ins.	Ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.165 × .285	99	2000	W <b>7301</b>	<b>23 10</b>
<b>1/.044</b>	<b>.0015</b>	.173 × .301	115	2000	W <b>7303</b>	<b>26 10</b>
<b>3/.029</b>	<b>.002</b>	.195 × .345	146	1250	W <b>7305</b>	<b>33 10</b>
<b>1/.064</b>	<b>.003</b>	.197 × .349	169	2000	W <b>7307</b>	<b>35 10</b>
<b>3/.036</b>	<b>.003</b>	.215 × .385	192	1250	W <b>7309</b>	<b>40 10</b>
<b>7/.029</b>	<b>.0045</b>	.226 × .407	235	1250	W <b>7311</b>	<b>52 0</b>
<b>7/.036</b>	<b>.007</b>	.259 × .473	349	900	W <b>7313</b>	<b>65 0</b>
<b>7/.044</b>	<b>.01</b>	.287 × .529	469	900	W <b>7315</b>	<b>86 0</b>
<b>7/.052</b>	<b>.0145</b>	.317 × .589	613	900	W <b>7317</b>	<b>108 0</b>
<b>7/.064</b>	<b>.0225</b>	.359 × .673	857	900	W <b>7319</b>	<b>143 0</b>
<b>19/.044</b>	<b>.03</b>	.428 × .776	1052	750	W <b>7321</b>	<b>176 0</b>
<b>19/.052</b>	<b>.04</b>	.476 × .872	1399	750	W <b>7323</b>	<b>235 0</b>
<b>19/.064</b>	<b>.06</b>	.568 × 1.036	2006	750	W <b>7325</b>	<b>322 0</b>
<b>19/.072</b>	<b>.075</b>	.616 × 1.132	2473	600	W <b>7327</b>	<b>393 0</b>
<b>19/.083</b>	<b>.1</b>	.683 × 1.266	3304	600	W <b>7329</b>	<b>502 0</b>
<b>37/.064</b>	<b>.12</b>	.722 × 1.344	3750	600	W <b>7331</b>	<b>586 0</b>
<b>37/.072</b>	<b>.15</b>	.788 × 1.476	4643	600	W <b>7333</b>	<b>716 0</b>
<b>37/.083</b>	<b>.2</b>	.909 × 1.698	6038	600	W <b>7335</b>	<b>915 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

# “NONAZO” CABLES

## TWIN CIRCULAR

### BRAIDED

**600 MEGOHM CLASS—CLASS No. 711.**



**NONAZO**

Regd. Trade  
Mark (No.  
458865).

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and two cores, one red and one black, twisted together and wormed circular, taped, braided and compounded.

No. and diameter of conductors.	Nominal area.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	lb.	Megohms.		£ s.
1/.036	.001	.309	129	2000	W <b>7351</b>	<b>32 10</b>
1/.044	.0015	.325	150	2000	W <b>7353</b>	<b>38 10</b>
3/.029	.002	.369	189	1250	W <b>7355</b>	<b>48 0</b>
1/.064	.003	.373	214	2000	W <b>7357</b>	<b>48 10</b>
3/.036	.003	.409	268	1250	W <b>7359</b>	<b>54 10</b>
7/.029	.0045	.431	320	1250	W <b>7361</b>	<b>66 10</b>
7/.036	.007	.497	423	900	W <b>7363</b>	<b>82 0</b>
7/.044	.01	.553	560	900	W <b>7365</b>	<b>107 0</b>
7/.052	.0145	.648	725	900	W <b>7367</b>	<b>132 0</b>
7/.064	.0225	.732	1011	900	W <b>7369</b>	<b>175 0</b>
19/.044	.03	.8	1220	750	W <b>7371</b>	<b>213 0</b>
19/.052	.04	.924	1592	750	W <b>7373</b>	<b>282 0</b>
19/.064	.06	1.068	2361	750	W <b>7375</b>	<b>383 0</b>
19/.072	.075	1.164	2894	600	W <b>7377</b>	<b>466 0</b>
19/.083	.1	1.298	3714	600	W <b>7379</b>	<b>588 0</b>
37/.064	.12	1.396	4214	600	W <b>7381</b>	<b>679 0</b>
37/.072	.15	1.528	5202	600	W <b>7383</b>	<b>826 0</b>
37/.083	.2	1.73	6784	600	W <b>7385</b>	<b>1050 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



**NONAZO**

Regd. Trade  
Mark (No.  
458865).

# “NONAZO” CABLES

## TWIN FLAT

### LEAD COVERED

#### 600 MEGOHM CLASS—CLASS No. 712.

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and two cores, one red and one black, laid side by side, and covered with a solid tube of lead.

No. and diameter of conductors.	Nominal area.	Thick-ness of Lead.	Approx. overall dimensions.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mille at 60° F.	Cat. No.	Price per 1000 yards.
No./Ins.	Sq. ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.04	.224 × .344	522	2000	W <b>7401</b>	<b>37 0</b>
<b>1/.044</b>	<b>.0015</b>	.04	.232 × .36	561	2000	W <b>7403</b>	<b>40 10</b>
<b>3/.029</b>	<b>.002</b>	.04	.254 × .404	647	1250	W <b>7405</b>	<b>50 10</b>
<b>1/.064</b>	<b>.003</b>	.04	.256 × .408	674	2000	W <b>7407</b>	<b>52 10</b>
<b>3/.036</b>	<b>.003</b>	.04	.274 × .444	746	1250	W <b>7409</b>	<b>60 10</b>
<b>7/.029</b>	<b>.0045</b>	.05	.305 × .486	1000	1250	W <b>7411</b>	<b>75 0</b>
<b>7/.036</b>	<b>.007</b>	.05	.338 × .552	1177	900	W <b>7413</b>	<b>90 0</b>
<b>7/.044</b>	<b>.01</b>	.05	.366 × .608	1387	900	W <b>7415</b>	<b>115 0</b>
<b>7/.052</b>	<b>.0145</b>	.06	.416 × .688	1884	900	W <b>7417</b>	<b>146 0</b>
<b>7/.064</b>	<b>.0225</b>	.06	.458 × .772	2295	900	W <b>7419</b>	<b>187 0</b>
<b>19/.044</b>	<b>.03</b>	.07	.512 × .86	2873	750	W <b>7421</b>	<b>230 0</b>
<b>19/.052</b>	<b>.04</b>	.08	.58 × .976	3903	750	W <b>7423</b>	<b>306 0</b>
<b>19/.064</b>	<b>.06</b>	.08	.66 × 1.128	4928	750	W <b>7425</b>	<b>407 0</b>
<b>19/.072</b>	<b>.075</b>	.08	.708 × 1.224	5678	600	W <b>7427</b>	<b>487 0</b>
<b>19/.083</b>	<b>.1</b>	.09	.795 × 1.378	7274	600	W <b>7429</b>	<b>621 0</b>
<b>37/.064</b>	<b>.12</b>	.09	.834 × 1.456	8017	600	W <b>7431</b>	<b>710 0</b>
<b>37/.072</b>	<b>.15</b>	.09	.9 × 1.588	9323	600	W <b>7433</b>	<b>854 0</b>
<b>37/.083</b>	<b>.2</b>	.1	1.021 × 1.81	11986	600	W <b>7435</b>	<b>1090 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10%** extra.

*For current carrying capacities see pages 17 to 21.*

# “NONAZO” CABLES

## TWIN CIRCULAR

### LEAD COVERED

#### 600 MEGOHM CLASS—CLASS No. 713.


**NONAZO**

 Regd. Trade  
Mark (No.  
458865).

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and two cores, one red and one black, twisted together and wormed circular, taped, and covered with a solid tube of lead.

No. and diameter of conductors.	Nominal area.	Thickness of Lead.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	ins.	ins.	lb.	Megohms.		£	s.
<b>1/.036</b>	<b>.001</b>	.04	.344	647	2000	W <b>7451</b>	<b>43</b>	<b>0</b>
<b>1/.044</b>	<b>.0015</b>	.04	.36	697	2000	W <b>7453</b>	<b>48</b>	<b>0</b>
<b>3/.029</b>	<b>.002</b>	.04	.404	800	1250	W <b>7455</b>	<b>59</b>	<b>0</b>
<b>1/.064</b>	<b>.003</b>	.04	.408	828	2000	W <b>7457</b>	<b>61</b>	<b>0</b>
<b>3/.036</b>	<b>.003</b>	.04	.444	916	1250	W <b>7459</b>	<b>70</b>	<b>0</b>
<b>7/.029</b>	<b>.0045</b>	.05	.486	1217	1250	W <b>7461</b>	<b>87</b>	<b>0</b>
<b>7/.036</b>	<b>.007</b>	.05	.552	1422	900	W <b>7463</b>	<b>106</b>	<b>0</b>
<b>7/.044</b>	<b>.01</b>	.05	.608	1672	900	W <b>7465</b>	<b>133</b>	<b>0</b>
<b>7/.052</b>	<b>.0145</b>	.06	.688	2256	900	W <b>7467</b>	<b>170</b>	<b>0</b>
<b>7/.064</b>	<b>.0225</b>	.06	.772	2735	900	W <b>7469</b>	<b>217</b>	<b>0</b>
<b>19/.044</b>	<b>.03</b>	.07	.86	3403	750	W <b>7471</b>	<b>270</b>	<b>0</b>
<b>19/.052</b>	<b>.04</b>	.08	.984	4593	750	W <b>7473</b>	<b>369</b>	<b>0</b>
<b>19/.064</b>	<b>.06</b>	.08	1.128	5770	750	W <b>7475</b>	<b>475</b>	<b>0</b>
<b>19/.072</b>	<b>.075</b>	.08	1.224	6624	600	W <b>7477</b>	<b>566</b>	<b>0</b>
<b>19/.083</b>	<b>.1</b>	.09	1.378	8486	600	W <b>7479</b>	<b>718</b>	<b>0</b>
<b>37/.064</b>	<b>.12</b>	.09	1.456	9303	600	W <b>7481</b>	<b>819</b>	<b>0</b>
<b>37/.072</b>	<b>.15</b>	.09	1.588	10792	600	W <b>7483</b>	<b>980</b>	<b>0</b>
<b>37/.083</b>	<b>.2</b>	.1	1.81	13905	600	W <b>7485</b>	<b>1250</b>	<b>0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



**NONAZO**

Regd. Trade  
Mark (No.  
458865).

## "NONAZO" CABLES

### TWIN CORE (NO LEAD)

#### JUTE BEDDED AND SINGLE WIRE ARMoured

(ARMOURING LEFT BARE)

#### 600 MEGOHM CLASS—CLASS No. 714.

Suitable for Working Pressures up to 250 volts above earth potential.

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and two cores, one red and one black, twisted together and wormed circular, taped, jute bedded and compounded, and armoured with a layer of galvanized steel wires.

No. and diameter of conductors.	Nominal area.	Diameter of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	lb.	Megohms.		£ s.
1/.036	.001	.064	.472	725	2000	W <b>7501</b>	63 0
1/.044	.0015	.064	.488	747	2000	W <b>7503</b>	68 10
3/.029	.002	.064	.532	859	1250	W <b>7505</b>	81 0
1/.064	.003	.064	.536	884	2000	W <b>7507</b>	83 10
3/.036	.003	.064	.572	983	1250	W <b>7509</b>	93 0
7/.029	.0045	.064	.594	1070	1250	W <b>7511</b>	106 0
7/.036	.007	.072	.716	1428	900	W <b>7513</b>	138 0
7/.044	.01	.072	.772	1699	900	W <b>7515</b>	166 0
7/.052	.0145	.072	.832	1951	900	W <b>7517</b>	195 0
7/.064	.0225	.072	.916	2356	900	W <b>7519</b>	243 0
19/.044	.03	.072	.984	2694	750	W <b>7521</b>	300 0
19/.052	.04	.08	1.184	3657	750	W <b>7523</b>	396 0
19/.064	.06	.08	1.328	4631	750	W <b>7525</b>	505 0
19/.072	.075	.104	1.472	6040	600	W <b>7527</b>	628 0
19/.083	.1	.104	1.606	7297	600	W <b>7529</b>	770 0
37/.064	.12	.104	1.684	7980	600	W <b>7531</b>	870 0
37/.072	.15	.128	1.864	10221	600	W <b>7533</b>	1066 0
37/.083	.2	.16	2.13	13787	600	W <b>7535</b>	1370 0

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



# “NONAZO” CABLES

## TWIN CORE (NO LEAD)

**JUTE BEDDED, SINGLE WIRE ARMoured, AND  
SERVED OVERALL**



**NONAZO**

Regd. Trade  
Mark (No.  
458865).

**600 MEGOHM CLASS—CLASS No. 715.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and two cores, one red and one black, twisted together and wormed circular, taped, jute bedded and compounded, and armoured with a layer of galvanized steel wires, jute served and further compounded overall.

No. and diameter of conductors.	Nominal area.	Diameter of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	<b>.064</b>	<b>.592</b>	<b>883</b>	<b>2000</b>	<b>W 7551</b>	<b>84 0</b>
<b>1/.044</b>	<b>.0015</b>	<b>.064</b>	<b>.608</b>	<b>906</b>	<b>2000</b>	<b>W 7553</b>	<b>95 10</b>
<b>3/.029</b>	<b>.002</b>	<b>.064</b>	<b>.652</b>	<b>1159</b>	<b>1250</b>	<b>W 7555</b>	<b>104 10</b>
<b>1/.064</b>	<b>.003</b>	<b>.064</b>	<b>.656</b>	<b>1185</b>	<b>2000</b>	<b>W 7557</b>	<b>107 0</b>
<b>3/.036</b>	<b>.003</b>	<b>.064</b>	<b>.692</b>	<b>1300</b>	<b>1250</b>	<b>W 7559</b>	<b>118 0</b>
<b>7/.029</b>	<b>.0045</b>	<b>.064</b>	<b>.714</b>	<b>1403</b>	<b>1250</b>	<b>W 7561</b>	<b>131 10</b>
<b>7/.036</b>	<b>.007</b>	<b>.072</b>	<b>.836</b>	<b>1814</b>	<b>900</b>	<b>W 7563</b>	<b>168 0</b>
<b>7/.044</b>	<b>.01</b>	<b>.072</b>	<b>.892</b>	<b>2112</b>	<b>900</b>	<b>W 7565</b>	<b>199 0</b>
<b>7/.052</b>	<b>.0145</b>	<b>.072</b>	<b>.952</b>	<b>2396</b>	<b>900</b>	<b>W 7567</b>	<b>230 0</b>
<b>7/.064</b>	<b>.0225</b>	<b>.072</b>	<b>1.036</b>	<b>2840</b>	<b>900</b>	<b>W 7569</b>	<b>281 0</b>
<b>19/.044</b>	<b>.03</b>	<b>.072</b>	<b>1.104</b>	<b>3211</b>	<b>750</b>	<b>W 7571</b>	<b>345 0</b>
<b>19/.052</b>	<b>.04</b>	<b>.08</b>	<b>1.384</b>	<b>4263</b>	<b>750</b>	<b>W 7573</b>	<b>453 0</b>
<b>19/.064</b>	<b>.06</b>	<b>.08</b>	<b>1.528</b>	<b>5310</b>	<b>750</b>	<b>W 7575</b>	<b>568 0</b>
<b>19/.072</b>	<b>.075</b>	<b>.104</b>	<b>1.672</b>	<b>6787</b>	<b>600</b>	<b>W 7577</b>	<b>698 0</b>
<b>19/.083</b>	<b>.1</b>	<b>.104</b>	<b>1.806</b>	<b>8112</b>	<b>600</b>	<b>W 7579</b>	<b>846 0</b>
<b>37/.064</b>	<b>.12</b>	<b>.104</b>	<b>1.884</b>	<b>8829</b>	<b>600</b>	<b>W 7581</b>	<b>949 0</b>
<b>37/.072</b>	<b>.15</b>	<b>.128</b>	<b>2.064</b>	<b>11172</b>	<b>600</b>	<b>W 7583</b>	<b>1153 0</b>
<b>37/.083</b>	<b>.2</b>	<b>.16</b>	<b>2.330</b>	<b>14840</b>	<b>600</b>	<b>W 7585</b>	<b>1470 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



**NONAZO**

Regd. Trade  
Mark (No.  
458865).

# “NONAZO” CABLES

## TWIN CORE

LEAD COVERED AND SINGLE WIRE ARMoured

(ARMOURING LEFT BARE)

**600 MEGOHM CLASS—CLASS No. 716.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and two cores, one red and one black, twisted together and wormed circular, taped, covered with a solid tube of lead, jute bedded and compounded, and armoured with a layer of galvanized steel wires.

No. and diameter of conductors.	Nominal area.	Thick-ness of Lead.	Diam. of Armour-ing Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 80° F.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£	s.
<b>1/.036</b>	<b>.001</b>	.04	.064	.552	1418	2000	W <b>7601</b>	<b>94</b>	<b>10</b>
<b>1/.044</b>	<b>.0015</b>	.04	.064	.568	1503	2000	W <b>7603</b>	<b>101</b>	<b>10</b>
<b>3/.029</b>	<b>.002</b>	.04	.072	.668	1943	1250	W <b>7605</b>	<b>127</b>	<b>0</b>
<b>1/.064</b>	<b>.003</b>	.04	.072	.672	1972	2000	W <b>7607</b>	<b>129</b>	<b>0</b>
<b>3/.036</b>	<b>.003</b>	.04	.072	.708	2115	1250	W <b>7609</b>	<b>142</b>	<b>0</b>
<b>7/.029</b>	<b>.0045</b>	.05	.072	.75	2521	1250	W <b>7611</b>	<b>163</b>	<b>10</b>
<b>7/.036</b>	<b>.007</b>	.05	.072	.816	2829	900	W <b>7613</b>	<b>188</b>	<b>0</b>
<b>7/.044</b>	<b>.01</b>	.05	.072	.872	3184	900	W <b>7615</b>	<b>223</b>	<b>0</b>
<b>7/.052</b>	<b>.0145</b>	.06	.072	.952	3928	900	W <b>7617</b>	<b>267</b>	<b>0</b>
<b>7/.064</b>	<b>.0225</b>	.06	.072	1.036	4565	900	W <b>7619</b>	<b>325</b>	<b>0</b>
<b>19/.044</b>	<b>.03</b>	.07	.08	1.22	6020	750	W <b>7621</b>	<b>400</b>	<b>0</b>
<b>19/.052</b>	<b>.04</b>	.08	.08	1.344	7242	750	W <b>7623</b>	<b>536</b>	<b>0</b>
<b>19/.064</b>	<b>.06</b>	.08	.104	1.536	9470	750	W <b>7625</b>	<b>690</b>	<b>0</b>
<b>19/.072</b>	<b>.075</b>	.08	.104	1.632	10696	600	W <b>7627</b>	<b>799</b>	<b>0</b>
<b>19/.083</b>	<b>.1</b>	.09	.128	1.834	13812	600	W <b>7629</b>	<b>1009</b>	<b>0</b>
<b>37/.064</b>	<b>.12</b>	.09	.128	1.912	15005	600	W <b>7631</b>	<b>1140</b>	<b>0</b>
<b>37/.072</b>	<b>.15</b>	.09	.128	2.044	16955	600	W <b>7633</b>	<b>1321</b>	<b>0</b>
<b>37/.083</b>	<b>.2</b>	.1	.16	2.33	22359	600	W <b>7635</b>	<b>1675</b>	<b>0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10%** extra.

*For current carrying capacities see pages 17 to 21.*

# “NONAZO” CABLES

## TWIN CORE

LEAD COVERED, SINGLE WIRE ARMoured, AND  
SERVED OVERALL



**NONAZO**

Regd. Trade  
Mark (No.  
458865).

**600 MEGOHM CLASS—CLASS No. 717.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and two cores, one red and one black, twisted together and wormed circular, taped, covered with a solid tube of lead, jute bedded and compounded, and armoured with a layer of galvanized steel wires, jute served and further compounded overall.

No. and diameter of conductors.	Nominal area.	Thick-ness of Lead.	Diam. of Armour-ing Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.04	.064	.672	1726	2000	W <b>7651</b>	<b>117 10</b>
<b>1/.044</b>	<b>.0015</b>	.04	.064	.688	1817	2000	W <b>7653</b>	<b>125 10</b>
<b>3/.029</b>	<b>.002</b>	.04	.072	.788	2308	1250	W <b>7655</b>	<b>154 10</b>
<b>1/.064</b>	<b>.003</b>	.04	.072	.792	2340	2000	W <b>7657</b>	<b>157 0</b>
<b>3/.036</b>	<b>.003</b>	.04	.072	.828	2496	1250	W <b>7659</b>	<b>171 0</b>
<b>7/.029</b>	<b>.0045</b>	.05	.072	.87	2927	1250	W <b>7661</b>	<b>194 10</b>
<b>7/.036</b>	<b>.007</b>	.05	.072	.936	3262	900	W <b>7663</b>	<b>221 0</b>
<b>7/.044</b>	<b>.01</b>	.05	.072	.992	3646	900	W <b>7665</b>	<b>259 0</b>
<b>7/.052</b>	<b>.0145</b>	.06	.072	1.072	4427	900	W <b>7667</b>	<b>306 0</b>
<b>7/.064</b>	<b>.0225</b>	.06	.072	1.156	5104	900	W <b>7669</b>	<b>410 0</b>
<b>19/.044</b>	<b>.03</b>	.07	.08	1.42	6655	750	W <b>7671</b>	<b>475 0</b>
<b>19/.052</b>	<b>.04</b>	.08	.08	1.544	7927	750	W <b>7673</b>	<b>596 0</b>
<b>19/.064</b>	<b>.06</b>	.08	.104	1.736	10245	750	W <b>7675</b>	<b>759 0</b>
<b>19/.072</b>	<b>.075</b>	.08	.104	1.832	11528	600	W <b>7677</b>	<b>871 0</b>
<b>19/.083</b>	<b>.1</b>	.09	.128	2.034	14729	600	W <b>7679</b>	<b>1090 0</b>
<b>37/.064</b>	<b>.12</b>	.09	.128	2.112	15955	600	W <b>7681</b>	<b>1224 0</b>
<b>37/.072</b>	<b>.15</b>	.09	.128	2.244	17979	600	W <b>7683</b>	<b>1411 0</b>
<b>37/.083</b>	<b>.2</b>	.1	.16	2.53	23508	600	W <b>7685</b>	<b>1775 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



**NONAZO**

Regd. Trade  
Mark (No.  
458865).

# “NONAZO” CABLES

## THREE CORE

**BRAIDED**

**600 MEGOHM CLASS—CLASS No. 721.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and three cores, twisted together and wormed circular, taped, braided and compounded.

No. and diameter of conductors.	Nominal area.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	<b>.327</b>	<b>165</b>	<b>2000</b>	<b>W 7701</b>	<b>44 10</b>
<b>1/.044</b>	<b>.0015</b>	<b>.344</b>	<b>196</b>	<b>2000</b>	<b>W 7703</b>	<b>50 10</b>
<b>3/.029</b>	<b>.002</b>	<b>.392</b>	<b>270</b>	<b>1250</b>	<b>W 7705</b>	<b>63 10</b>
<b>1/.064</b>	<b>.003</b>	<b>.396</b>	<b>307</b>	<b>2000</b>	<b>W 7707</b>	<b>67 0</b>
<b>3/.036</b>	<b>.003</b>	<b>.435</b>	<b>347</b>	<b>1250</b>	<b>W 7709</b>	<b>75 10</b>
<b>7/.029</b>	<b>.0045</b>	<b>.458</b>	<b>420</b>	<b>1250</b>	<b>W 7711</b>	<b>92 10</b>
<b>7/.036</b>	<b>.007</b>	<b>.529</b>	<b>564</b>	<b>900</b>	<b>W 7713</b>	<b>115 0</b>
<b>7/.044</b>	<b>.01</b>	<b>.624</b>	<b>755</b>	<b>900</b>	<b>W 7715</b>	<b>151 0</b>
<b>7/.052</b>	<b>.0145</b>	<b>.689</b>	<b>984</b>	<b>900</b>	<b>W 7717</b>	<b>190 0</b>
<b>7/.064</b>	<b>.0225</b>	<b>.779</b>	<b>1366</b>	<b>900</b>	<b>W 7719</b>	<b>250 0</b>
<b>19/.044</b>	<b>.03</b>	<b>.86</b>	<b>1664</b>	<b>750</b>	<b>W 7721</b>	<b>310 0</b>
<b>19/.052</b>	<b>.04</b>	<b>.983</b>	<b>2195</b>	<b>750</b>	<b>W 7723</b>	<b>411 0</b>
<b>19/.064</b>	<b>.06</b>	<b>1.138</b>	<b>3259</b>	<b>750</b>	<b>W 7725</b>	<b>560 0</b>
<b>19/.072</b>	<b>.075</b>	<b>1.241</b>	<b>4015</b>	<b>600</b>	<b>W 7727</b>	<b>681 0</b>
<b>19/.083</b>	<b>.1</b>	<b>1.405</b>	<b>5186</b>	<b>600</b>	<b>W 7729</b>	<b>862 0</b>
<b>37/.064</b>	<b>.12</b>	<b>1.489</b>	<b>5891</b>	<b>600</b>	<b>W 7731</b>	<b>998 0</b>
<b>37/.072</b>	<b>.15</b>	<b>1.631</b>	<b>7291</b>	<b>600</b>	<b>W 7733</b>	<b>1217 0</b>
<b>37/.083</b>	<b>.2</b>	<b>1.848</b>	<b>9542</b>	<b>600</b>	<b>W 7735</b>	<b>1550 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

# “NONAZO” CABLES

## THREE CORE

### LEAD COVERED

**600 MEGOHM CLASS—CLASS No. 723.**



**NONAZO**

Regd. Trade  
Mark (No.  
458866).

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and three cores, twisted together and wormed circular, taped and covered with a solid tube of lead.

No. and diameter of conductors.	Nominal area.	Thickness of Lead.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	<b>.05</b>	<b>.382</b>	<b>887</b>	<b>2000</b>	<b>W 7751</b>	<b>59 0</b>
<b>1/.044</b>	<b>.0015</b>	<b>.05</b>	<b>.399</b>	<b>953</b>	<b>2000</b>	<b>W 7753</b>	<b>66 0</b>
<b>3/.029</b>	<b>.002</b>	<b>.05</b>	<b>.447</b>	<b>1092</b>	<b>1250</b>	<b>W 7755</b>	<b>82 10</b>
<b>1/.064</b>	<b>.003</b>	<b>.05</b>	<b>.451</b>	<b>1131</b>	<b>2000</b>	<b>W 7757</b>	<b>85 10</b>
<b>3/.036</b>	<b>.003</b>	<b>.05</b>	<b>.49</b>	<b>1254</b>	<b>1250</b>	<b>W 7759</b>	<b>96 10</b>
<b>7/.029</b>	<b>.0045</b>	<b>.06</b>	<b>.533</b>	<b>1613</b>	<b>1250</b>	<b>W 7761</b>	<b>120 10</b>
<b>7/.036</b>	<b>.007</b>	<b>.06</b>	<b>.604</b>	<b>1887</b>	<b>900</b>	<b>W 7763</b>	<b>146 0</b>
<b>7/.044</b>	<b>.01</b>	<b>.07</b>	<b>.684</b>	<b>2520</b>	<b>900</b>	<b>W 7765</b>	<b>194 0</b>
<b>7/.052</b>	<b>.0145</b>	<b>.07</b>	<b>.749</b>	<b>2940</b>	<b>900</b>	<b>W 7767</b>	<b>236 0</b>
<b>7/.064</b>	<b>.0225</b>	<b>.07</b>	<b>.839</b>	<b>3584</b>	<b>900</b>	<b>W 7769</b>	<b>303 0</b>
<b>19/.044</b>	<b>.03</b>	<b>.08</b>	<b>.94</b>	<b>4406</b>	<b>750</b>	<b>W 7771</b>	<b>375 0</b>
<b>19/.052</b>	<b>.04</b>	<b>.09</b>	<b>1.063</b>	<b>5874</b>	<b>750</b>	<b>W 7773</b>	<b>503 0</b>
<b>19/.064</b>	<b>.06</b>	<b>.09</b>	<b>1.218</b>	<b>7448</b>	<b>750</b>	<b>W 7775</b>	<b>667 0</b>
<b>19/.072</b>	<b>.075</b>	<b>.09</b>	<b>1.321</b>	<b>8590</b>	<b>600</b>	<b>W 7777</b>	<b>799 0</b>
<b>19/.083</b>	<b>.1</b>	<b>.1</b>	<b>1.485</b>	<b>10976</b>	<b>600</b>	<b>W 7779</b>	<b>1016 0</b>
<b>37/.064</b>	<b>.12</b>	<b>.1</b>	<b>1.569</b>	<b>12040</b>	<b>600</b>	<b>W 7781</b>	<b>1163 0</b>
<b>37/.072</b>	<b>.15</b>	<b>.1</b>	<b>1.711</b>	<b>14045</b>	<b>600</b>	<b>W 7783</b>	<b>1400 0</b>
<b>37/.083</b>	<b>.2</b>	<b>.11</b>	<b>1.948</b>	<b>18054</b>	<b>600</b>	<b>W 7785</b>	<b>1780 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

**S.E.C.****IRELLI GENERAL****NONAZO**
 Regd. Trade  
 Mark (No.  
 458865).
**“NONAZO” CABLES****THREE CORE (FLAT)****LEAD COVERED****600 MEGOHM CLASS—CLASS No. 722.**
**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and taped. The three cores laid side by side and covered with a solid tube of lead.

No. and diameter of conductors.	Nominal area.	Thick-ness of Lead.	Approx. overall dimensions.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./Ins.	Sq. ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.05	.244 × .484	913	2000	<b>W 7801</b>	<b>60 0</b>
<b>1/.044</b>	<b>.0015</b>	.05	.252 × .508	976	2000	<b>W 7803</b>	<b>66 0</b>
<b>3/.029</b>	<b>.002</b>	.05	.274 × .574	1120	1250	<b>W 7805</b>	<b>80 10</b>
<b>1/.064</b>	<b>.003</b>	.05	.276 × .58	1160	2000	<b>W 7807</b>	<b>83 10</b>
<b>3/.036</b>	<b>.003</b>	.05	.294 × .634	1280	1250	<b>W 7809</b>	<b>93 10</b>
<b>7/.029</b>	<b>.0045</b>	.06	.325 × .687	1647	1250	<b>W 7811</b>	<b>121 0</b>
<b>7/.036</b>	<b>.007</b>	.06	.358 × .786	1930	900	<b>W 7813</b>	<b>145 0</b>

 Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**
*For current carrying capacities see pages 17 to 21.*

# “NONAZO” CABLES

## THREE CORE (NO LEAD)

JUTE BEDDED AND SINGLE WIRE ARMoured

(ARMOURING LEFT BARE)



**NONAZO**

Regd. Trade  
Mark (No.  
458865).

**600 MEGOHM CLASS—CLASS No. 724.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and three cores, twisted together and wormed circular, taped, jute bedded and compounded and armoured with a layer of galvanized steel wires.

No. and diameter of conductors.	Nominal area.	Diameter of Armouring Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	ins.	ins.	lb.	Megohms.		£	s.
<b>1/.036</b>	<b>.001</b>	.064	.49	763	2000	W <b>7831</b>	<b>75</b>	<b>0</b>
<b>1/.044</b>	<b>.0015</b>	.064	.507	829	2000	W <b>7833</b>	<b>82</b>	<b>0</b>
<b>3/.029</b>	<b>.002</b>	.064	.555	952	1250	W <b>7835</b>	<b>99</b>	<b>10</b>
<b>1/.064</b>	<b>.003</b>	.064	.559	988	2000	W <b>7837</b>	<b>102</b>	<b>10</b>
<b>3/.036</b>	<b>.003</b>	.064	.598	1098	1250	W <b>7839</b>	<b>114</b>	<b>0</b>
<b>7/.029</b>	<b>.0045</b>	.072	.677	1378	1250	W <b>7841</b>	<b>142</b>	<b>0</b>
<b>7/.036</b>	<b>.007</b>	.072	.748	1613	900	W <b>7843</b>	<b>171</b>	<b>0</b>
<b>7/.044</b>	<b>.01</b>	.072	.808	1938	900	W <b>7845</b>	<b>210</b>	<b>0</b>
<b>7/.052</b>	<b>.0145</b>	.072	.873	2251	900	W <b>7847</b>	<b>252</b>	<b>0</b>
<b>7/.064</b>	<b>.0225</b>	.072	.963	2811	900	W <b>7849</b>	<b>318</b>	<b>0</b>
<b>19/.044</b>	<b>.03</b>	.072	1.044	3278	750	W <b>7851</b>	<b>390</b>	<b>0</b>
<b>19/.052</b>	<b>.04</b>	.08	1.243	4525	750	W <b>7853</b>	<b>521</b>	<b>0</b>
<b>19/.064</b>	<b>.06</b>	.08	1.398	5710	750	W <b>7855</b>	<b>695</b>	<b>0</b>
<b>19/.072</b>	<b>.075</b>	.104	1.549	7347	600	W <b>7857</b>	<b>845</b>	<b>0</b>
<b>19/.083</b>	<b>.1</b>	.104	1.693	8960	600	W <b>7859</b>	<b>1052</b>	<b>0</b>
<b>37/.064</b>	<b>.12</b>	.128	1.825	10763	600	W <b>7861</b>	<b>1219</b>	<b>0</b>
<b>37/.072</b>	<b>.15</b>	.128	1.967	12667	600	W <b>7863</b>	<b>1460</b>	<b>0</b>
<b>37/.083</b>	<b>.2</b>	.16	2.248	16979	600	W <b>7865</b>	<b>1870</b>	<b>0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10%** extra.

*For current carrying capacities see pages 17 to 21.*



**NONAZO**

Regd. Trade  
Mark (No.  
458865).

## “NONAZO” CABLES

### THREE CORE (NO LEAD)

**JUTE BEDDED, SINGLE WIRE ARMoured, AND  
SERVED OVERALL**

**600 MEGOHM CLASS—CLASS No. 725.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and three cores, twisted together and wormed circular, taped, jute bedded and compounded, and armoured with a layer of galvanized steel wires, jute served and further compounded overall.

No. and diameter of conductors.	Nominal area.	Diameter of Armour- ing Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./Ins.	Sq. ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.064	.61	935	2000	W <b>7881</b>	<b>95 0</b>
<b>1/.044</b>	<b>.0015</b>	.064	.627	1008	2000	W <b>7883</b>	<b>103 0</b>
<b>3/.029</b>	<b>.002</b>	.064	.675	1143	1250	W <b>7885</b>	<b>121 10</b>
<b>1/.064</b>	<b>.003</b>	.064	.679	1176	2000	W <b>7887</b>	<b>124 10</b>
<b>3/.036</b>	<b>.003</b>	.064	.718	1299	1250	W <b>7889</b>	<b>137 10</b>
<b>7/.029</b>	<b>.0045</b>	.072	.797	1602	1250	W <b>7891</b>	<b>168 0</b>
<b>7/.036</b>	<b>.007</b>	.072	.868	1854	900	W <b>7893</b>	<b>199 0</b>
<b>7/.044</b>	<b>.01</b>	.072	.928	2195	900	W <b>7895</b>	<b>240 0</b>
<b>7/.052</b>	<b>.0145</b>	.072	.993	2531	900	W <b>7897</b>	<b>284 0</b>
<b>7/.064</b>	<b>.0225</b>	.072	1.083	3125	900	W <b>7899</b>	<b>352 0</b>
<b>19/.044</b>	<b>.03</b>	.072	1.164	3620	750	W <b>7901</b>	<b>435 0</b>
<b>19/.052</b>	<b>.04</b>	.08	1.443	5354	750	W <b>7903</b>	<b>577 0</b>
<b>19/.064</b>	<b>.06</b>	.08	1.598	6631	750	W <b>7905</b>	<b>757 0</b>
<b>19/.072</b>	<b>.075</b>	.104	1.649	8378	600	W <b>7907</b>	<b>913 0</b>
<b>19/.083</b>	<b>.1</b>	.104	1.893	10067	600	W <b>7909</b>	<b>1125 0</b>
<b>37/.064</b>	<b>.12</b>	.128	2.025	11973	600	W <b>7911</b>	<b>1297 0</b>
<b>37/.072</b>	<b>.15</b>	.128	2.167	13955	600	W <b>7913</b>	<b>1546 0</b>
<b>37/.083</b>	<b>.2</b>	.16	2.448	18446	600	W <b>7915</b>	<b>1965 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



# “NONAZO” CABLES

## THREE CORE

LEAD COVERED AND SINGLE WIRE ARMoured

(ARMOURING LEFT BARE)



**NONAZO**

Regd. Trade  
Mark (No.  
458865).

**600 MEGOHM CLASS—CLASS No. 726.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and three cores twisted together and wormed circular, taped, covered with a solid tube of lead, jute bedded and compounded, and armoured with a layer of galvanized steel wires.

No. and diameter of conductors.	Nominal area.	Thick-ness of Lead.	Diam. of Armour-ing Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	<b>.05</b>	<b>.064</b>	<b>.59</b>	<b>1697</b>	<b>2000</b>	<b>W 7931</b>	<b>113 10</b>
<b>1/.044</b>	<b>.0015</b>	<b>.05</b>	<b>.064</b>	<b>.607</b>	<b>1803</b>	<b>2000</b>	<b>W 7933</b>	<b>123 0</b>
<b>3/.029</b>	<b>.002</b>	<b>.05</b>	<b>.072</b>	<b>.711</b>	<b>2296</b>	<b>1250</b>	<b>W 7935</b>	<b>155 10</b>
<b>1/.064</b>	<b>.003</b>	<b>.05</b>	<b>.072</b>	<b>.715</b>	<b>2341</b>	<b>2000</b>	<b>W 7937</b>	<b>158 10</b>
<b>3/.036</b>	<b>.003</b>	<b>.05</b>	<b>.072</b>	<b>.754</b>	<b>2554</b>	<b>1250</b>	<b>W 7939</b>	<b>174 0</b>
<b>7/.029</b>	<b>.0045</b>	<b>.06</b>	<b>.072</b>	<b>.797</b>	<b>2968</b>	<b>1250</b>	<b>W 7941</b>	<b>201 10</b>
<b>7/.036</b>	<b>.007</b>	<b>.06</b>	<b>.072</b>	<b>.868</b>	<b>3354</b>	<b>900</b>	<b>W 7943</b>	<b>235 0</b>
<b>7/.044</b>	<b>.01</b>	<b>.07</b>	<b>.072</b>	<b>.948</b>	<b>4150</b>	<b>900</b>	<b>W 7945</b>	<b>291 0</b>
<b>7/.052</b>	<b>.0145</b>	<b>.07</b>	<b>.072</b>	<b>1.013</b>	<b>4715</b>	<b>900</b>	<b>W 7947</b>	<b>341 0</b>
<b>7/.064</b>	<b>.0225</b>	<b>.07</b>	<b>.08</b>	<b>1.199</b>	<b>5869</b>	<b>900</b>	<b>W 7949</b>	<b>448 0</b>
<b>19/.044</b>	<b>.03</b>	<b>.08</b>	<b>.08</b>	<b>1.3</b>	<b>7123</b>	<b>750</b>	<b>W 7951</b>	<b>540 0</b>
<b>19/.052</b>	<b>.04</b>	<b>.09</b>	<b>.104</b>	<b>1.471</b>	<b>9363</b>	<b>750</b>	<b>W 7953</b>	<b>711 0</b>
<b>19/.064</b>	<b>.06</b>	<b>.09</b>	<b>.104</b>	<b>1.626</b>	<b>11424</b>	<b>750</b>	<b>W 7955</b>	<b>909 0</b>
<b>19/.072</b>	<b>.075</b>	<b>.09</b>	<b>.128</b>	<b>1.777</b>	<b>13765</b>	<b>600</b>	<b>W 7957</b>	<b>1075 0</b>
<b>19/.083</b>	<b>.1</b>	<b>.10</b>	<b>.128</b>	<b>1.941</b>	<b>16688</b>	<b>600</b>	<b>W 7959</b>	<b>1331 0</b>
<b>37/.064</b>	<b>.12</b>	<b>.10</b>	<b>.128</b>	<b>2.025</b>	<b>18054</b>	<b>600</b>	<b>W 7961</b>	<b>1509 0</b>
<b>37/.072</b>	<b>.15</b>	<b>.10</b>	<b>.16</b>	<b>2.231</b>	<b>22042</b>	<b>600</b>	<b>W 7963</b>	<b>1812 0</b>
<b>37/.083</b>	<b>.2</b>	<b>.11</b>	<b>.16</b>	<b>2.468</b>	<b>27014</b>	<b>600</b>	<b>W 7965</b>	<b>2240 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*



**NONAZO**

Regd. Trade  
Mark (No.  
458865).

# “NONAZO” CABLES

## THREE CORE

**LEAD COVERED, SINGLE WIRE ARMoured, AND  
SERVED OVERALL**

**600 MEGOHM CLASS—CLASS No. 727.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and three cores twisted together and wormed circular, taped, covered with a solid tube of lead, jute bedded and compounded, and armoured with a layer of galvanized steel wires, jute served and further compounded overall.

No. and diameter of conductors.	Nominal area.	Thick-ness of Lead.	Diam. of Armour-ing Wires.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	.05	.064	.71	1904	2000	W <b>7981</b>	<b>135 10</b>
<b>1/.044</b>	<b>.0015</b>	.05	.064	.727	2106	2000	W <b>7983</b>	<b>145 10</b>
<b>3/.029</b>	<b>.002</b>	.05	.072	.831	2542	1250	W <b>7985</b>	<b>181 0</b>
<b>1/.064</b>	<b>.003</b>	.05	.072	.835	2582	2000	W <b>7987</b>	<b>184 10</b>
<b>3/.036</b>	<b>.003</b>	.05	.072	.874	2811	1250	W <b>7989</b>	<b>200 10</b>
<b>7/.029</b>	<b>.0045</b>	.06	.072	.917	3248	1250	W <b>7991</b>	<b>229 10</b>
<b>7/.036</b>	<b>.007</b>	.06	.072	.988	3640	900	W <b>7993</b>	<b>265 0</b>
<b>7/.044</b>	<b>.01</b>	.07	.072	1.068	4469	900	W <b>7995</b>	<b>324 0</b>
<b>7/.052</b>	<b>.0145</b>	.07	.072	1.133	5051	900	W <b>7997</b>	<b>376 0</b>
<b>7/.064</b>	<b>.0225</b>	.07	.08	1.399	6675	900	W <b>7999</b>	<b>497 0</b>
<b>19/.044</b>	<b>.03</b>	.08	.08	1.5	7995	750	W <b>8001</b>	<b>590 0</b>
<b>19/.052</b>	<b>.04</b>	.09	.104	1.671	10349	750	W <b>8003</b>	<b>769 0</b>
<b>19/.064</b>	<b>.06</b>	.09	.104	1.826	12510	750	W <b>8005</b>	<b>973 0</b>
<b>19/.072</b>	<b>.075</b>	.09	.128	1.977	14941	600	W <b>8007</b>	<b>1144 0</b>
<b>19/.083</b>	<b>.1</b>	.10	.128	2.141	17965	600	W <b>8009</b>	<b>1406 0</b>
<b>37/.064</b>	<b>.12</b>	.10	.128	2.225	19387	600	W <b>8011</b>	<b>1587 0</b>
<b>37/.072</b>	<b>.15</b>	.10	.16	2.431	23498	600	W <b>8013</b>	<b>1898 0</b>
<b>37/.083</b>	<b>.2</b>	.11	.16	2.668	28627	600	W <b>8015</b>	<b>2335 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10% extra.**

*For current carrying capacities see pages 17 to 21.*

# “NONAZO” CABLES

## SINGLE CORE

### TOUGH RUBBER SHEATHED

#### FOR USE IN “MAGNET” WIRING SYSTEM\*

#### 600 MEGOHM CLASS—CLASS No. 751.

Suitable for Working Pressures up to 250 volts above earth potential.

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.



**NONAZO**

Regd. Trade Mark (No. 458865).

No. and diameter of conductors.	Nominal area.	Thickness of Solid Rubber Sheathing.	Approx. overall diam.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mile. at 60° F.	Cat. No.	Price per 1000 yards.
No./ins.	Sq. ins.	ins.	ins.	lb.	Megohms.		£ s.
1/.036	.001	.05	.204	85	2000	W <b>8021</b>	<b>23 5</b>
1/.044	.0015	.05	.212	96	2000	W <b>8023</b>	<b>25 0</b>
3/.029	.002	.05	.234	115	1250	W <b>8025</b>	<b>29 10</b>
1/.064	.003	.05	.236	128	2000	W <b>8027</b>	<b>30 10</b>
3/.036	.003	.05	.254	142	1250	W <b>8029</b>	<b>34 0</b>
7/.029	.0045	.05	.265	167	1250	W <b>8031</b>	<b>39 0</b>
7/.036	.007	.05	.29	214	900	W <b>8033</b>	<b>46 10</b>
7/.044	.01	.05	.318	278	900	W <b>8035</b>	<b>58 0</b>
7/.052	.0145	.05	.348	352	900	W <b>8037</b>	<b>71 0</b>
7/.064	.0225	.06	.41	505	900	W <b>8039</b>	<b>96 0</b>
19/.044	.03	.06	.444	607	750	W <b>8041</b>	<b>118 0</b>
19/.052	.04	.06	.492	787	750	W <b>8043</b>	<b>156 0</b>
19/.064	.06	.06	.564	1108	750	W <b>8045</b>	<b>205 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10%** extra,

For current carrying capacities see pages 17 to 21.

\*For particulars of “Magnet” Wiring Systems see pages 230 to 241.



**NONAZO**

Regd. Trade  
Mark (No.  
458865).

# “NONAZO” CABLES

## TOUGH RUBBER SHEATHED

FOR USE IN “MAGNET” WIRING SYSTEM\*

**600 MEGOHM CLASS.**

Suitable for Working Pressures up to 250 volts above earth potential.

### TWIN CORE (FLAT)—CLASS No. 760.

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, the two cores laid side by side and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

#### TWIN CORE (FLAT)

No. and diameter of conductors.	Nominal area.	Thick-ness of solid rubber sheath-ing.	Approx. overall dimensions.	Approx. weight per 1000 yards.	Approx. minimum insulation resistance per mille at 60° F.	Cat. No.	Price per 1000 yards.
No/ins.	Sq. ins.	ins.	ins.	lb.	Megohms.		£ s.
<b>1/.036</b>	<b>.001</b>	<b>.05</b>	<b>.204 × .308</b>	<b>146</b>	<b>2000</b>	<b>W 8121</b>	<b>44 0</b>
<b>1/.044</b>	<b>.0015</b>	<b>.05</b>	<b>.212 × .324</b>	<b>166</b>	<b>2000</b>	<b>W 8123</b>	<b>48 0</b>
<b>3/.029</b>	<b>.002</b>	<b>.06</b>	<b>.254 × .388</b>	<b>230</b>	<b>1250</b>	<b>W 8125</b>	<b>60 0</b>
<b>1/.064</b>	<b>.003</b>	<b>.06</b>	<b>.256 × .392</b>	<b>254</b>	<b>2000</b>	<b>W 8127</b>	<b>63 0</b>
<b>3/.036</b>	<b>.003</b>	<b>.06</b>	<b>.274 × .428</b>	<b>284</b>	<b>1250</b>	<b>W 8129</b>	<b>71 0</b>
<b>7/.029</b>	<b>.0045</b>	<b>.06</b>	<b>.285 × .45</b>	<b>335</b>	<b>1250</b>	<b>W 8131</b>	<b>83 0</b>
<b>7/.036</b>	<b>.007</b>	<b>.06</b>	<b>.31 × .5</b>	<b>435</b>	<b>900</b>	<b>W 8133</b>	<b>99 0</b>
<b>7/.044</b>	<b>.01</b>	<b>.06</b>	<b>.338 × .556</b>	<b>566</b>	<b>900</b>	<b>W 8135</b>	<b>125 0</b>
<b>7/.052</b>	<b>.0145</b>	<b>.06</b>	<b>.368 × .616</b>	<b>721</b>	<b>900</b>	<b>W 8137</b>	<b>157 0</b>
<b>7/.064</b>	<b>.0225</b>	<b>.08</b>	<b>.45 × .74</b>	<b>1068</b>	<b>900</b>	<b>W 8139</b>	<b>211 0</b>

### THREE CORE (FLAT)—CLASS No. 782.

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, the three cores laid side by side and sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

#### THREE CORE (FLAT)

<b>1/.036</b>	<b>.001</b>	<b>.05</b>	<b>.204 × .412</b>	<b>176</b>	<b>2000</b>	<b>W 8221</b>	<b>56 0</b>
<b>1/.044</b>	<b>.0015</b>	<b>.05</b>	<b>.212 × .436</b>	<b>211</b>	<b>2000</b>	<b>W 8223</b>	<b>64 0</b>
<b>3/.029</b>	<b>.002</b>	<b>.06</b>	<b>.254 × .522</b>	<b>302</b>	<b>1250</b>	<b>W 8225</b>	<b>79 0</b>
<b>1/.064</b>	<b>.003</b>	<b>.06</b>	<b>.256 × .528</b>	<b>337</b>	<b>2000</b>	<b>W 8227</b>	<b>81 0</b>
<b>3/.036</b>	<b>.003</b>	<b>.06</b>	<b>.274 × .582</b>	<b>378</b>	<b>1250</b>	<b>W 8229</b>	<b>92 0</b>
<b>7/.029</b>	<b>.0045</b>	<b>.06</b>	<b>.285 × .615</b>	<b>452</b>	<b>1250</b>	<b>W 8231</b>	<b>109 0</b>
<b>7/.036</b>	<b>.007</b>	<b>.06</b>	<b>.31 × .69</b>	<b>590</b>	<b>900</b>	<b>W 8233</b>	<b>132 0</b>
<b>7/.044</b>	<b>.01</b>	<b>.06</b>	<b>.338 × .774</b>	<b>792</b>	<b>900</b>	<b>W 8235</b>	<b>164 0</b>
<b>7/.052</b>	<b>.0145</b>	<b>.08</b>	<b>.408 × .904</b>	<b>1095</b>	<b>900</b>	<b>W 8237</b>	<b>229 0</b>
<b>7/.064</b>	<b>.0225</b>	<b>.08</b>	<b>.450 × 1.03</b>	<b>1500</b>	<b>900</b>	<b>W 8239</b>	<b>289 0</b>

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, **10%** extra.

For current carrying capacities see pages 17 to 21.

\* For particulars of “Magnet” Wiring Systems see pages 230 to 241.

# “NONAZO” CABLES

## LEAD COVERED WITH EARTH CONTINUITY CONDUCTORS

FOR USE IN “MAGNET” WIRING SYSTEM\*

(G.E.C. Patent No. 236786)

**600 MEGOHM CLASS.**

Suitable for Working Pressures up to 250 volts above earth potential.

**SINGLE CORE—CLASS No. 791.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and covered with a solid tube of lead with a H.C. tinned copper earth continuity conductor laid under and in direct contact with the lead sheath.



**NONAZO**

Regd. Trade Mark (No. 458865).

No. and diameter of conductors.	Nominal area.	No. and diam. of Bonding Wires.	Approx. minimum insulation resistance per mile at 60° F.	Thick-ness of Lead.	Approx. overall diam.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	No./ins.	Megohms.	ins.	ins.	lb.		£	s.
1/.044	.0015	3 × .02	2000	.04	.228	412	W <b>8301</b>	23	10
3/.029	.002	3 × .02	1250	.04	.250	471	W <b>8303</b>	28	0
3/.036	.003	5 × .02	1250	.04	.270	530	W <b>8305</b>	33	10
7/.029	.0045	5 × .02	1250	.04	.281	570	W <b>8307</b>	39	0
7/.036	.007	5 × .02	900	.05	.334	802	W <b>8309</b>	50	10

### TWIN CORE (FLAT)—CLASS No. 792.

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped, and two cores, one red and one black, laid side by side, and covered with a solid tube of lead, with a H.C. tinned copper earth continuity conductor laid under and in direct contact with the lead sheath.

No. and diameter of conductors.	Nominal area.	No. and diam. of Bonding Wires.	Approx. minimum insulation resistance per mile at 60° F.	Thick-ness of Lead.	Approx. overall dimensions.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.	
No./ins.	Sq. ins.	No./ins.	Megohms.	ins.	ins.	lb.		£	s.
1/.044	.0015	1/.036	2000	.04	.232 × .360	615	W <b>8407</b>	42	10
3/.029	.002	1/.036	1250	.04	.254 × .404	720	W <b>8409</b>	52	10
3/.036	.003	1/.044	1250	.04	.274 × .444	817	W <b>8411</b>	64	0
7/.029	.0045	1/.044	1250	.05	.305 × .486	1050	W <b>8413</b>	78	10
7/.036	.007	1/.044	900	.05	.338 × .552	1255	W <b>8415</b>	93	10
7/.044	.010	1/.044	900	.05	.366 × .608	1480	W <b>8417</b>	118	10
7/.064	.0225	1/.052	900	.06	.458 × .772	2427	W <b>8419</b>	191	10

### THREE CORE (FLAT)—CLASS No. 793.

**SPECIFICATION.**—Conductors of high conductivity tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, taped. The three cores laid side by side, and covered with a solid tube of lead, with a H.C. tinned copper earth continuity conductor laid under and in direct contact with the lead sheath.

1/.044	.0015	1/.036	2000	.05	.252 × .508	990	W <b>8517</b>	68	0
3/.029	.002	1/.036	1250	.05	.274 × .574	1160	W <b>8519</b>	82	10
3/.036	.003	1/.044	1250	.05	.294 × .634	1214	W <b>8521</b>	97	0

Lengths under 50 yards, up to and including cables of .1 sq. in. nominal area, 10% extra.

For current carrying capacities see pages 17 to 21.

\* For particulars of “Magnet” Wiring Systems see pages 230 to 241.

# **FLEXIBLE CORDS**

## **WIRING TABLE**

*Extract from I.E.E. Regulations for the Electrical Equipment of Buildings, September, 1934 (10th Edition).*

**TABLE 14.**

Dimensions.

Conductor.		Minimum Thickness of Dielectric for 250-volt Circuits.		
Nominal Cross-Sectional Area. 1.	Number and Diameter of Wires. 2.	High Insulation.		Medium Insulation.
		Pure Rubber. 3.	Vulcanized Rubber or Pure and Vulcanized Rubber. 4.	Vulcanized Rubber. 5.
Sq. in.	No./ins.	in.	in.	in.
0.0006	14/.0076	0.020	0.033	0.028
0.001	23/.0076	0.020	0.034	0.029
0.0017	40/.0076	0.020	0.035	0.030
0.003	70/.0076	0.020	0.036	0.031
0.0048	110/.0076	0.020	0.038	0.032
0.007	162/.0076	0.020	0.039	—

NOTE.—Table 14 does not apply to earth continuity conductors, whether insulated or not.

The minimum thickness of protection on tough-rubber-protected flexible cords is 0.05 inch, except for 0.0006 square inch and 0.001 square inch cords insulated as in Cols. 4 or 5 for pendant lighting fittings up to 250 volts, in which case a minimum thickness of 0.03 inch is permissible.

**TABLE 15.**

Current Rating, Resistance, and Weight Supported.

Conductor.		Current Rating (subject to Voltage Drop) for Twin Flexible Cords.	Resistance* per 1000 yards at 60° F. (15.6° C.). Maximum Allowable for :—			Maximum Permissible Weight supported by Twin Flexible Cord. (See Regulation 602 (E).)
Nominal Cross- Sectional Area. 1.	Number and Diam. of Wires. 2.		Standard. 4.	Plain Wires. 5.	Tinned Wires. 6.	
3.	4.		5.	6.	7.	
Sq. in.	No./ins.	amps.	ohms.	ohms.	ohms.	lb.
0.0006	14/.0076	2	39.7	40.5	41.3	3
0.001	23/.0076	3	24.2	24.6	25.1	5
0.0017	40/.0076	5	13.9	14.2	14.4	10
0.003	70/.0076	10	7.94	8.10	8.26	10
0.0048	110/.0076	15	5.05	5.15	5.25	10
0.007	162/.0076	20	3.43	3.50	3.57	10

\*The figures given for resistance refer to straight single cores. Where the cores are twisted into twin or multicore cords an allowance must be made for the extra length due to laying up.

## **G.E.C. FLEXIBLE CORD COLOUR RANGE**

### **COTTON BRAIDED**

3. Maroon ; 5. White ; 10. Black ; 18. Olive Green ; 22. Brown ; 30. Old Gold ; 32. Sage Green ; 33. One Strand Red and one Black.

### **ART SILK BRAIDED**

3. Maroon ; 5. White ; 8. Orange Gold ; 10. Black ; 12. Dark Old Gold ; 18. Olive Green ; 20. Light Blue ; 21. Cerise ; 22. Brown ; 23. Billiard Green ; 24. Cream ; 25. Steel Blue ; 26. Medium Blue ; 27. Dark Blue ; 28. Silver Grey ; 29. Dark Terra Cotta ; 30. Old Gold ; 32. Sage Green.

When ordering please quote Catalogue Number as well as Colour.

# **FLEXIBLE CORDS**

## **THIN VULCANIZED RUBBER INSULATION**

### **TWIN CORE**

**SPECIFICATION.**—Each conductor of plain copper wires, lapped with fine cotton, insulated with one layer of vulcanized india-rubber and—

**Class No. 800**—Braided with glazed cotton, the two cores twisted together. In standard colours.

**Class No. 801**—Braided with artificial silk, the two cores twisted together. In standard colours.

**Class No. 802**—Two cores twisted together, wormed circular, then braided and compounded overall. Workshop type.

### **GLAZED COTTON BRAIDED—CLASS No. 800.**

No. and diameter of conductors.	Nominal area.	Approx. weight per 100 yards.	Cat. No.	Price per 100 yards.
No./ins.	Sq. ins.	lb.		£ s. d.
<b>14/.0076</b>	<b>.0006</b>	4	W <b>9001</b>	<b>1 3 6</b>
<b>23/.0076</b>	<b>.001</b>	5	W <b>9003</b>	<b>1 8 0</b>
<b>40/.0076</b>	<b>.0017</b>	7	W <b>9005</b>	<b>1 18 6</b>

### **ART. SILK BRAIDED—CLASS No. 801.**

No. and diameter of conductors.	Nominal area.	Approx. weight per 100 yards.	Cat. No.	Price per 100 yards.
No./ins.	Sq. ins.	lb.		£ s. d.
<b>14/.0076</b>	<b>.0006</b>	4	W <b>9011</b>	<b>1 5 0</b>
<b>23/.0076</b>	<b>.001</b>	5	W <b>9013</b>	<b>1 10 6</b>
<b>40/.0076</b>	<b>.0017</b>	7	W <b>9015</b>	<b>2 1 0</b>

### **WORKSHOP—CLASS No. 802.**

No. and diameter of conductors.	Nominal area.	Approx. weight per 100 yards.	Cat. No.	Price per 100 yards.
No./ins.	Sq. ins.	lb.		£ s. d.
<b>14/.0076</b>	<b>.0006</b>	5	W <b>9021</b>	<b>1 2 6</b>
<b>23/.0076</b>	<b>.001</b>	6.5	W <b>9023</b>	<b>1 6 0</b>
<b>40/.0076</b>	<b>.0017</b>	9.5	W <b>9025</b>	<b>1 18 0</b>

Single Strand Art. Silk Flexible Cords can be supplied at the above prices, less **50%**.  
Lengths under 25 yards **10%** extra.

## FLEXIBLE CORDS

### MEDIUM INSULATION VULCANIZED RUBBER

These cords withstand a test pressure of 1500 volts between conductors for 15 minutes in dry state, and comply with I.E.E. Regulation 307 (C) for pendant lighting fittings and for the internal wiring of lighting fittings. They have a minimum insulation resistance of 300 megohms per mile of single core to earth (not immersed).

#### SINGLE CORE UNBRAIDED—CLASS No. 819.

**SPECIFICATION.**—Conductor composed of tinned copper wires, insulated with two layers of vulcanized india-rubber, core left bare.

No. and diameter of conductors.	Nominal area.	Radial thickness of Insulation.	Approx. weight per 100 yards.	Cat. No.	Price per 100 yards.
No./ins.	Sq. ins.	ins.	lb.		£ s. d.
14/.0076	.0006	.028	2	W 9065	9 6
23/.0076	.001	.029	2.75	W 9067	13 0
40/.0076	.0017	.03	4	W 9069	1 0 0

### TWIN CORE

**SPECIFICATION.**—Each conductor composed of tinned copper wires, insulated with two layers of vulcanized india-rubber, and—

**Class No. 820**—Braided with glazed cotton, the two cores twisted together. In standard colours.

**Class No. 821**—Braided with artificial silk, the two cores twisted together. In standard colours.

**Class No. 822**—Two cores twisted together with wormings, then braided and compounded overall. Workshop type.

#### GLAZED COTTON BRAIDED—CLASS No. 820.

No. and diameter of conductors.	Nominal area.	Radial thickness of Insulation.	Approx. weight per 100 yards.	Cat. No.	Price per 100 yards.
No./ins.	Sq. ins.	ins.	lb.		£ s. d.
14/.0076	.0006	.028	4.94	W 9073	1 8 0
23/.0076	.001	.029	6.7	W 9075	1 13 0
40/.0076	.0017	.03	9.37	W 9077	2 5 0
70/.0076	.003	.031	14	W 9079	3 5 0
110/.0076	.0048	.032	19.6	W 9081	4 9 0

#### ART. SILK BRAIDED—CLASS No. 821.

14/.0076	.0006	.028	4.51	W 9083	1 10 6
23/.0076	.001	.029	6.28	W 9085	1 17 0
40/.0076	.0017	.03	8.87	W 9087	2 7 6
70/.0076	.003	.031	13.44	W 9089	3 6 6
110/.0076	.0048	.032	18.93	W 9091	4 10 0

#### WORKSHOP—CLASS No. 822.

14/.0076	.0006	.028	6.51	W 9093	1 6 0
23/.0076	.001	.029	8.99	W 9095	1 10 6
40/.0076	.0017	.03	11.98	W 9097	2 3 0
70/.0076	.003	.031	17.36	W 9099	3 3 0
110/.0076	.0048	.032	23.63	W 9101	4 6 0

Lengths, under 25 yards, 10% extra.



## FLEXIBLE CORDS

### MEDIUM INSULATION VULCANIZED RUBBER

These cords withstand a test pressure of 1500 volts between conductors for 15 minutes in dry state, and comply with I.E.E. Regulation 307 (C) for pendant lighting fittings, and for the internal wiring of lighting fittings. They have a minimum insulation resistance of 300 megohms per mile of single core to earth (not immersed).

#### TWIN CORE, ASBESTOS COVERED

**SPECIFICATION.**—Each conductor composed of tinned copper wires, insulated with two layers of vulcanized india-rubber, asbestos braided, the two cores twisted together.

##### CLASS No. 823.

No. and diameter of conductors.	Nominal area.	Radial thickness of Insulation.	Weight per 100 yards.	Cat. No.	Price per 100 yards.
No./ins.	Sq. ins.	ins.	lb.		£ s. d.
14/.0076	.0006	.028	8	W 9111	5 5 0
40/.0076	.0017	.030	14	W 9113	7 5 0

#### TWIN FLAT, ART. SILK BRAIDED

**SPECIFICATION.**—Each conductor composed of tinned copper wires insulated with two layers of vulcanized india-rubber, cores laid side by side and art. silk braided overall.

##### CLASS No. 824.

No. and diameter of conductors.	Nominal area.	Radial thickness of Insulation.	Cat. No.	Price per 100 yards.
No./ins.	Sq. ins.	ins.		£ s. d.
14/.0076	.0006	.028	W 9084	1 14 0
23/.0076	.001	.029	W 9086	2 0 0

The above cords are specially suitable for electric clocks, light counterweight fittings, etc.

#### TWIN CORE (CIRCULAR)

**SPECIFICATION.**—Circular cord, each conductor composed of tinned copper wires, insulated with two layers of vulcanized india-rubber, the two cores twisted together, made circular with cotton filling, and—

**Class No. 827**—Braided with glazed cotton.

**Class No. 828**—Braided with artificial silk.

##### CLASS No. 827. CLASS No. 828.

No. and diameter of conductors.	Nominal area.	Radial thickness of Insulation.	Cat. No.	Price per 100 yards.	Cat. No.	Price per 100 yards.
No./ins.		ins.		£ s. d.		£ s. d.
14/.0076	.0006	.028	W 9072	1 4 6	W 9092	1 7 0
23/.0076	.001	.029	W 9074	1 8 8	W 9094	1 10 8
40/.0076	.0017	.03	W 9076	1 18 0	W 9096	2 0 6
70/.0076	.008	.031	W 9078	2 16 6	W 9098	2 19 0
110/.0076	.0048	.032	W 9080	4 4 0	W 9100	4 12 0

Lengths under 25 yards, 10% extra.

## FLEXIBLE CORDS

### STANDARD 20 MIL. INSULATION PURE RUBBER

These cords withstand a test pressure of 1000 volts between conductors for 15 minutes in dry state.

#### TWIN CORE

**SPECIFICATION.**—Each conductor composed of plain copper wires, lapped with cotton, insulated with two layers of pure india-rubber, again lapped with cotton, and—

**Class No. 830**—Braided with glazed cotton, the two cores twisted together.

**Class No. 831**—Braided with artificial silk, the two cores twisted together.

**Class No. 832**—Two cores twisted together with wormings, then braided and compounded overall. Workshop type.

#### GLAZED COTTON BRAIDED—CLASS No. 830.

No. and diameter of conductors.	Nominal area.	Radial thickness of Insulation.	Dimensions over outer cotton on core.	Approx. weight per 100 yards.	Cat. No.	Price per 100 yards.
No./ins.	Sq. ins.	mils.	ins.	lb.		£ s. d.
14/.0076	.0006	20	.093	5.75	W <b>9123</b>	1 14 0
23/.0076	.001	20	.106	6.75	W <b>9125</b>	1 19 6
40/.0076	.0017	20	.117	9.25	W <b>9127</b>	2 10 0
70/.0076	.003	20	.138	13.75	W <b>9129</b>	3 7 6
110/.0076	.0048	20	.154	19.5	W <b>9131</b>	4 12 0

#### ART. SILK BRAIDED—CLASS No. 831.

14/.0076	.0006	20	.093	4.5	W <b>9133</b>	1 16 6
23/.0076	.001	20	.106	6	W <b>9135</b>	2 4 0
40/.0076	.0017	20	.117	8.75	W <b>9137</b>	2 17 6
70/.0076	.003	20	.138	13	W <b>9139</b>	3 18 0
110/.0076	.0048	20	.154	18.75	W <b>9141</b>	5 2 0

#### WORKSHOP—CLASS No. 832.

14/.0076	.0006	20	.093	8	W <b>9143</b>	1 10 6
23/.0076	.001	20	.106	10	W <b>9145</b>	1 18 0
40/.0076	.0017	20	.117	12.75	W <b>9147</b>	2 6 0
70/.0076	.003	20	.138	19	W <b>9149</b>	3 5 0
110/.0076	.0048	20	.154	25.5	W <b>9151</b>	4 7 6

### MEDIUM INSULATION VULCANIZED RUBBER

#### THREE CORE (CIRCULAR)

**SPECIFICATION.**—Conductor of tinned copper wires insulated with two layers of vulcanized india-rubber, cores twisted together, made circular with cotton filling, and—

**Class No. 833**—Braided with glazed cotton.

**Class No. 834**—Braided with artificial silk.

#### CLASS No. 833. CLASS No. 834.

No. and diameter of conductors.	Nominal area.	Radial thickness of Insulation.	Cat. No.	Price per 100 yards.	Cat. No.	Price per 100 yards.
No./ins.	Sq. ins.	mils.		£ s. d.		£ s. d.
14/.0076	.0006	.028	W <b>9124</b>	1 13 0	W <b>9134</b>	1 16 0
23/.0076	.001	.029	W <b>9126</b>	1 17 6	W <b>9136</b>	2 0 0
40/.0076	.0017	.03	W <b>9128</b>	2 9 0	W <b>9138</b>	2 15 0
70/.0076	.003	.031	W <b>9130</b>	3 14 0	W <b>9140</b>	4 0 0
110/.0076	.0048	.032	W <b>9132</b>	5 8 0	W <b>9142</b>	6 4 0

# “C.M.A.” (P.I.R.) FLEXIBLE CORDS

## TWIN CORE



**C.M.A.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

Regd. Trade  
Mark (No.  
422219/20/21).

These cords withstand a test pressure of 1500 volts between conductors for 15 minutes in dry state, and comply with I.E.E. Regulation 307 (D) for fixed wiring and for fixed lighting fittings (including pendants).

**SPECIFICATION.**—Each conductor composed of plain copper wires, lapped with cotton, covered with two layers of pure india-rubber, and one coat of cotton, and—

**Class No. 840**—Braided with glazed cotton, the two cores twisted together.

**Class No. 841**—Braided with artificial silk, the two cores twisted together.

**Class No. 842**—Two cores twisted together with wormings, then braided and compounded overall. Workshop type.

### **GLAZED COTTON BRAIDED—CLASS No. 840.**

No. and diameter of conductors.	Nominal area.	Radial thickness of Insulation.	Approx. weight per 100 yards.	Cat. No.	Price per 100 yards.
No./ins.	Sq. ins.	ins.	lb.		£ s. d.
14/.0076	.0006	.02	5.75	W <b>9161</b>	3 11 0
23/.0076	.001	.02	6.75	W <b>9163</b>	4 4 0
40/.0076	.0017	.02	9.25	W <b>9165</b>	4 19 0
70/.0076	.003	.02	13.75	W <b>9167</b>	6 7 0
110/.0076	.0048	.02	19.5	W <b>9169</b>	8 0 0
162/.0076	.007	.02	27.5	W <b>9171</b>	10 4 0

### **ART. SILK BRAIDED—CLASS No. 841.**

14/.0076	.0006	.02	4.5	W <b>9173</b>	3 19 6
23/.0076	.001	.02	6	W <b>9175</b>	4 12 0
40/.0076	.0017	.02	8.75	W <b>9177</b>	5 9 6
70/.0076	.003	.02	13	W <b>9179</b>	6 17 6
110/.0076	.0048	.02	18.75	W <b>9181</b>	8 12 0
162/.0076	.007	.02	26.5	W <b>9183</b>	10 19 6

### **WORKSHOP—CLASS No. 842.**

14/.0076	.0006	.02	8	W <b>9185</b>	3 4 0
23/.0076	.001	.02	10	W <b>9187</b>	3 14 0
40/.0076	.0017	.02	12.75	W <b>9189</b>	4 14 0
70/.0076	.003	.02	19	W <b>9191</b>	5 19 0
110/.0076	.0048	.02	25.5	W <b>9193</b>	7 13 0
162/.0076	.007	.02	34	W <b>9195</b>	9 15 0

Lengths under 25 yards **10%** extra.

**S.E.C.**

**C.M.A.**  
 Regd. Trade  
 Mark (No.  
 422219/20/21).

**PIRELLI GENERAL**

## “C.M.A.” (P. & V.I.R.) FLEXIBLE CORDS TWIN CORE

**Suitable for Working Pressures up to 250 volts above earth potential.**

These cords withstand a test pressure of 1000 volts between conductor and earth for 15 minutes after 24 hours immersion in water, and comply with I.E.E. Regulation No. 307 (D) for fixed wiring and for fixed lighting fittings (including pendants).

**SPECIFICATION.**—Each conductor composed of tinned copper wires, covered with one layer of pure rubber and two layers of vulcanized rubber, and—

**Class No. 850**—Braided with glazed cotton, the two cores twisted together.

**Class No. 851**—Braided with artificial silk, the two cores twisted together.

**Class No. 852**—Two cores, twisted together with wormings, then braided and compounded overall. Workshop type.

### GLAZED COTTON BRAIDED—CLASS No. 850.

No. and diameter of conductors.	Nominal area.	Thickness of Insulation.	Minimum insulation resistance per mile at 60° F.	Approx. weight per 100 yards.	Cat. No.	Price per 100 yards.
No./ins.	Sq. ins.	ins.	Megohms.	lb.		£ s. d.
14/.0076	.0006	.033	1250	6.5	W 9205	3 9 0
23/.0076	.001	.034	1250	8.25	W 9207	4 2 0
40/.0076	.0017	.035	1250	11	W 9209	5 2 0
70/.0076	.003	.036	1250	16	W 9211	6 12 0
110/.0076	.0048	.038	1250	22.5	W 9213	8 12 0
162/.0076	.007	.039	900	31	W 9215	11 2 0

### ART. SILK BRAIDED—CLASS No. 851.

14/.0076	.0006	.033	1250	5.75	W 9217	3 19 6
23/.0076	.001	.034	1250	7.5	W 9219	4 14 0
40/.0076	.0017	.035	1250	10.25	W 9221	5 14 0
70/.0076	.003	.036	1250	15.25	W 9223	7 7 6
110/.0076	.0048	.038	1250	21.5	W 9225	9 11 0
162/.0076	.007	.039	900	30	W 9227	12 5 0

### WORKSHOP—CLASS No. 852.

14/.0076	.0006	.033	1250	9	W 9229	3 9 0
23/.0076	.001	.034	1250	11.25	W 9231	4 3 0
40/.0076	.0017	.035	1250	14.5	W 9233	5 4 0
70/.0076	.003	.036	1250	21	W 9235	6 17 0
110/.0076	.0048	.038	1250	28	W 9237	9 0 0
162/.0076	.007	.039	900	37.25	W 9239	11 12 0

## WITH EARTHING CORE

**TO COMPLY WITH HOME OFFICE REGULATIONS**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Each conductor composed of tinned copper wires, covered with one layer of pure rubber and two layers of vulcanized rubber. Earthing conductor of tinned copper wires, braided with cotton and compounded. Two insulated cores and one earthing core laid up circular with jute wormings, strongly braided and treated with preservative compound. Workshop type.

### CLASS No. 862.

No. and diameter of conductors.	Size of Earth Wire.	Thickness of Insulation.	Minimum insulation resistance per mile at 60° F.	Approx. overall diam.	Approx. weight per 100 yards.	Cat. No.	Price per 100 yards.
No./ins.	ins.	ins.	Megohms.	ins.	lb.		£ s. d.
14/.0076	14/.0076	.033	1250	.277	10.6	W 9249	4 1 0
23/.0076	23/.0076	.034	1250	.301	12.82	W 9251	4 19 0
40/.0076	40/.0076	.035	1250	.323	16.85	W 9253	6 6 0
70/.0076	70/.0076	.036	1250	.361	25.15	W 9255	8 11 0
110/.0076	110/.0076	.038	1250	.401	34.27	W 9257	11 8 0
162/.0076	110/.0076	.039	900	.441	45.25	W 9259	14 0 0

Lengths under 25 yards 10% extra.

# **“VICMA” (D.V.I.R.) FLEXIBLE CORDS**

## **TWIN CORE**

**Suitable for Working Pressures up to 250 volts above earth potential.**

These cords withstand a test pressure of 1000 volts between conductor and earth for 15 minutes after 24 hours immersion in water, and comply with I.E.E. Regulation No. 307 (D) for fixed wiring and for fixed lighting fittings (including pendants).

**SPECIFICATION.**—Each conductor composed of tinned copper wires, insulated with two layers of vulcanized rubber and—

**Class No. 853**—Braided with glazed cotton, the two cores twisted together.

**Class No. 854**—Braided with artificial silk, the two cores twisted together.

**Class No. 855**—Two cores twisted together with wormings, then braided and compounded overall. Workshop type.



**VICMA**

Regd. Trade  
Mark (No.  
486180).

No. and diameter of conductors.	Thick-ness of Insulation.	Glazed Cotton Braided. CLASS 853.			Art. Silk Braided. CLASS 854.			Workshop. CLASS 855.					
		Cat. No.	Price per 100 yards.		Cat. No.	Price per 100 yards.		Cat. No.	Price per 100 yards.				
No./ins.	ins.		£	s.	d.		£	s.	d.		£	s.	d.
14/.0076	.033	W 9206	3	9	0	W 9218	3	19	6	W 9230	3	9	0
23/.0076	.034	W 9208	4	2	0	W 9220	4	14	0	W 9232	4	3	0
40/.0076	.035	W 9210	5	2	0	W 9222	5	14	0	W 9234	5	4	0
70/.0076	.036	W 9212	6	12	0	W 9224	7	7	6	W 9236	6	17	0
110/.0076	.038	W 9214	8	12	0	W 9226	9	11	0	W 9238	9	0	0
162/.0076	.039	W 9216	11	2	0	W 9228	12	5	0	W 9240	11	12	0

# **“DOMESTAFLEX”**

(Patent No. 395481)

**Suitable for Working Pressures up to 250 volts above earth potential.**

Unkinkable flexible cords for all electric portable domestic appliances, complying with I.E.E. Regulation No. 307 (D).

These cords withstand a test pressure of 1000 volts between conductor and earth for 15 minutes after 24 hours immersion in water.

**SPECIFICATION.**—Each conductor of tinned copper wires insulated with two layers of vulcanized india-rubber, each core distinctively coloured, cores stranded with whipcord; inserts filled circular with vulcanized rubber and glazed cotton braided (the braid being embedded in the rubber).

No. and diameter of conductors.	Thickness of Insulation.	Twin Core. CLASS 888.			Three Core. CLASS 889.				
		Cat. No.	Price per 100 yards.			Cat. No.	Price per 100 yards.		
No./ins.	ins.		£	s.	d.		£	s.	d.
23/.0076	.034	W 9401	4	14	0	W 9406	5	3	0
40/.0076	.035	W 9402	5	16	0	W 9407	6	10	0
70/.0076	.036	W 9403	7	11	0	W 9408	8	14	0
110/.0076	.038	W 9404	9	15	0	W 9409	11	11	0
162/.0076	.039	W 9405	12	11	0	W 9410	15	1	0

## **FLEXIBLE CORDS WITH HEAT-RESISTING RUBBER INSULATION.**

The flexible cords described above can be supplied with Pirelli-General heat-resisting rubber insulation at an extra price of 5 per cent.

Flexible cords insulated with this heat-resisting rubber are specially recommended for use with all portable heat-producing appliances, such as irons, kettles, toasters, heaters, etc.

Heat-resisting rubber insulated flexible cords are also recommended for use with high-wattage lamps.

The dimensions of flexible cords insulated with heat-resisting rubber are the same as those insulated with P. & D.V.I.R.

Lengths under 25 yards **10% extra.**

**S.E.C.****PIRELLI GENERAL**

## “C.M.A.” FLEXIBLE CORDS

### TOUGH RUBBER SHEATHED

**C.M.A.****Suitable for Working Pressures up to 250 volts above earth potential.**

Regd. Trade  
Mark (No.  
422219/20/21).

These cords withstand a test pressure of 1000 volts between conductor and earth for 15 minutes after 24 hours immersion in water, and have an insulation resistance of 1250 megohms per mile.

**SPECIFICATION.**—Each conductor of tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, the insulated cores either single or twisted together, sheathed with vulcanized india-rubber of a special tough and durable quality, making practically a solid cable.

#### SINGLE CORE—CLASS No. 871.

No. and diameter of conductors.	Nominal area.	Thick-ness of Insulation.	Thick-ness of solid rubber sheathing.	Approx. overall diam.	Approx. weight per 100 yards.	Cat. No.	Price per 100 yards.		
No./ins.	Sq. ins.	ins.	ins.	ins.	lb.		£	s.	d.
<b>14/.0076</b>	<b>.0006</b>	.033	.05	.2	6.4	W <b>9271</b>	<b>3</b>	<b>2</b>	<b>0</b>
<b>23/.0076</b>	<b>.001</b>	.034	.05	.214	7.6	W <b>9273</b>	<b>3</b>	<b>9</b>	<b>0</b>
<b>40/.0076</b>	<b>.0017</b>	.035	.05	.227	8.8	W <b>9275</b>	<b>4</b>	<b>0</b>	<b>0</b>
<b>70/.0076</b>	<b>.003</b>	.036	.05	.248	10.9	W <b>9277</b>	<b>4</b>	<b>18</b>	<b>0</b>
<b>110/.0076</b>	<b>.0048</b>	.038	.05	.268	13.8	W <b>9279</b>	<b>6</b>	<b>1</b>	<b>0</b>
<b>162/.0076</b>	<b>.007</b>	.039	.05	.288	17	W <b>9281</b>	<b>7</b>	<b>9</b>	<b>0</b>

#### TWIN CORE—CLASS No. 872.

<b>14/.0076</b>	<b>.0006</b>	.033	.05	.3	14.8	W <b>9283</b>	<b>6</b>	<b>5</b>	<b>0</b>
<b>23/.0076</b>	<b>.001</b>	.034	.05	.326	17.5	W <b>9285</b>	<b>7</b>	<b>2</b>	<b>0</b>
<b>40/.0076</b>	<b>.0017</b>	.035	.05	.354	20.8	W <b>9287</b>	<b>8</b>	<b>14</b>	<b>0</b>
<b>70/.0076</b>	<b>.003</b>	.036	.06	.416	29.1	W <b>9289</b>	<b>11</b>	<b>12</b>	<b>0</b>
<b>110/.0076</b>	<b>.0048</b>	.038	.06	.456	36.9	W <b>9291</b>	<b>14</b>	<b>12</b>	<b>0</b>
<b>162/.0076</b>	<b>.007</b>	.039	.06	.496	45.8	W <b>9293</b>	<b>18</b>	<b>10</b>	<b>0</b>

#### THREE CORE—CLASS No. 873.

<b>14/.0076</b>	<b>.0006</b>	.033	.05	.315	16.6	W <b>9295</b>	<b>7</b>	<b>13</b>	<b>0</b>
<b>23/.0076</b>	<b>.001</b>	.034	.05	.346	20	W <b>9297</b>	<b>8</b>	<b>16</b>	<b>0</b>
<b>40/.0076</b>	<b>.0017</b>	.035	.06	.393	26.4	W <b>9299</b>	<b>11</b>	<b>8</b>	<b>0</b>
<b>70/.0076</b>	<b>.003</b>	.036	.06	.439	34.2	W <b>9301</b>	<b>14</b>	<b>4</b>	<b>0</b>
<b>110/.0076</b>	<b>.0048</b>	.038	.06	.482	44	W <b>9303</b>	<b>18</b>	<b>8</b>	<b>0</b>
<b>162/.0076</b>	<b>.007</b>	.039	.06	.525	55.5	W <b>9305</b>	<b>23</b>	<b>13</b>	<b>0</b>

#### FOUR CORE—CLASS No. 874.

<b>14/.0076</b>	<b>.0006</b>	.033	.05	.341	19.9	W <b>9307</b>	<b>9</b>	<b>13</b>	<b>0</b>
<b>23/.0076</b>	<b>.001</b>	.034	.06	.395	26.2	W <b>9309</b>	<b>11</b>	<b>14</b>	<b>0</b>
<b>40/.0076</b>	<b>.0017</b>	.035	.06	.426	31.6	W <b>9311</b>	<b>14</b>	<b>7</b>	<b>0</b>
<b>70/.0076</b>	<b>.003</b>	.036	.06	.477	41.4	W <b>9313</b>	<b>17</b>	<b>18</b>	<b>0</b>
<b>110/.0076</b>	<b>.0048</b>	.038	.06	.526	53.9	W <b>9315</b>	<b>23</b>	<b>7</b>	<b>0</b>
<b>162/.0076</b>	<b>.007</b>	.039	.06	.574	68.5	W <b>9317</b>	<b>29</b>	<b>18</b>	<b>0</b>

Twin and Three-Core Flexibles with Insulated Earth Conductors, same price as Three and Four-Core respectively.

Twin and Three-Core Flexibles with Uninsulated Earth Conductors, same price as Three and Four-Core respectively, less 5%.

# **"C.M.A." FLEXIBLE CORDS**

## **TOUGH RUBBER SHEATHED**

### **SPECIALLY RECOMMENDED FOR PENDANTS**

**Suitable for Working Pressures up to 250 volts above earth potential.**

These cords withstand a test pressure of 1000 volts between conductor and earth for 15 minutes after 24 hours immersion in water, and have an insulation resistance of 1250 megohms per mile.



**C.M.A.**

Regd. Trade  
Mark (No.  
422219/20/21).

**SPECIFICATION.**—Each conductor of tinned copper wires, insulated with **one layer of pure** and two layers of vulcanized india-rubber, cores twisted together and sheathed overall with tough rubber, making practically a solid cable.

No. and diameter of conductors.	Thickness of Insulation.	Twin Core. CLASS No. 875.			Three Core. CLASS No. 877.		
		Cat. No.		Price per 100 yards.	Cat. No.		Price per 100 yards.
				£ s. d.			£ s. d.
No./ins.	ins.						
14/.0076	.033	W 9284		6 5 0	W 9296	7 13 0	
23/.0076	.034	W 9286		7 2 0	W 9298	8 16 0	

# **"C.M.A." DYNAMO FLEXIBLE CABLES**

## **FOR DYNAMO AND MOTOR CONNECTIONS, ETC.**

### **600 MEGOHM GRADE—CLASS No. 880.**

**Suitable for Working Pressures up to 250 volts above earth potential.**

**SPECIFICATION.**—Conductor of high conductivity tinned copper wires, insulated with **one layer of pure** india-rubber and two layers of vulcanized india-rubber, taped, braided and compounded overall.

No. and diameter of conductors.	Nominal area.	Thickness of Insulation.	Approx. overall diam.	Approx. minimum insulation resistance per mile at 60° F.	Approx. weight per 1000 yards.	Cat. No.	Price per foot.
No./ins.	Sq. ins.	ins.	ins.	Megohms	lb.		s. d.
110/.0076	.0048	.038	.218	1250	120	W 9327	0 3½
162/.0076	.007	.039	.238	900	159	W 9329	0 5
140/.010	.01	.043	.273	900	218	W 9331	0 7
195/.010	.0145	.046	.327	900	314	W 9333	0 9½
296/.010	.0225	.049	.423	900	458	W 9335	1 0½
266/.012	.03	.052	.428	750	561	W 9337	1 3
368/.012	.04	.056	.512	750	744	W 9339	1 7½
557/.012	.06	.062	.599	750	1081	W 9341	2 3
705/.012	.075	.066	.647	600	1332	W 9343	2 9
416/.018	.1	.072	.734	600	1745	W 9345	3 4
482/.018	.12	.075	.795	600	2012	W 9347	3 11
610/.018	.15	.08	.85	600	2457	W 9349	4 10
810/.018	.2	.088	1.001	600	3298	W 9351	6 3
1017/.018	.25	.095	1.095	600	4032	W 9353	7 9
1248/.018	.3	.102	1.204	600	4922	W 9355	9 6
1677/.018	.4	.114	1.378	600	6512	W 9357	12 6
2057/.018	.5	.121	1.482	600	7819	W 9359	15 0



## CARGO AND STAGE FLEXIBLE CORDS

### TWIN CORE

**SPECIFICATION.**—Each conductor of copper wires, cotton lapped, insulated with two layers of vulcanized india-rubber, and coloured taped. Two cores laid up, wormed circular with jute, taped, jute braided and compounded overall.

#### CLASS No. 881.

No. and diameter of conductors.	Nominal area.	Approx. weight per 100 yards.	Cat. No.	Price per 100 yards.
No./ins.	Sq. ins.	lb.		£ s. d.
28/.0076	.0012	18	W 9371	5 0 0
40/.0076	.0017	20	W 9373	5 12 6
70/.0076	.003	27	W 9375	6 15 0
110/.0076	.0048	35	W 9377	8 15 0
162/.0076	.007	50	W 9379	12 7 6

The above cords can also be supplied with an armouring consisting of a Single Galvanized Steel Wire, 18 S.W.G., applied in open spiral overall. Price on application.

## FLEXIBLE LIFT CABLES

(COTTON BRAIDED AND COMPOUNDED)

FOR ELECTRIC BELL AND SIMILAR SIGNALLING CIRCUITS

**SPECIFICATION.**—Each conductor of tinned copper wires, cotton lapped, insulated with two layers of vulcanized india-rubber, coloured cotton braided. The cores stranded around a jute centre, open hemp spiral, cotton braided and compounded.

#### CLASS No. 882.

No. of cores.	No. and diameter of conductors in each core.	Approx. overall diam.	Approx. weight per 100 yards.	Cat. No.	Price per 100 yards.
	No./ins.	ins.	lb.		£ s. d.
6	40/.0076	.542	38	W 9389	8 8 0
8	40/.0076	.652	52	W 9391	10 18 6
10	40/.0076	.765	69	W 9393	13 12 6
12	40/.0076	.87	86	W 9395	16 15 0

## TOUGH RUBBER SHEATHED

FOR POWER CIRCUITS

These cables withstand a test pressure of 1000 volts between conductor and earth for 15 minutes after 24 hours immersion in water, and have an insulation resistance of 1250 megohms per mile.

**SPECIFICATION.**—Each conductor of tinned copper wires, insulated with **one layer of pure** india-rubber, and two layers of vulcanized india-rubber, coloured cores stranded, filled and sheathed with tough rubber compound.

#### CLASS No. 885.

No. of cores.	No. and diameter of conductors in each core.	Approx. overall diam.	Approx. weight per 100 yards.	Cat. No.	Price per 100 yards.
	No./ins.	ins.	lb.		
6	40/.0076	.538	53	W 9397	On application
8	40/.0076	.585	65	W 9398	
10	40/.0076	.705	84	W 9399	
12	40/.0076	.723	93	W 9400	



# SHOT FIRING CABLE

## TWIN CORE



**SPECIFICATION.**—High conductivity plain copper wires, insulated with special compound and coloured taped. Two cores, distinctive colours, stranded, jute wormed circular, and—

**Class No. 900**—Yellow cotton braided overall.

**Class No. 902**—Cotton braided and compounded.

### YELLOW COTTON BRAIDED—CLASS No. 900.

No. and diameter of conductors.	Nominal area.	Approx. overall diameter.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
No./ins. <b>4/.018</b>	Sq. ins. <b>.001</b>	ins. .25	lb. 80	W <b>9437</b>	£ s. d. <b>16 10 0</b>

### BRAIDED AND COMPOUNDED—CLASS No. 902.

No. and diameter of conductors.	Nominal area.	Approx. overall diameter.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
No./ins. <b>4/.018</b>	Sq. ins. <b>.001</b>	ins. .26	lb. 88	W <b>9447</b>	£ s. d. <b>16 10 0</b>

## ELECTROLIER WIRES

**SPECIFICATION.**—Tinned copper conductors, insulated with **one layer of pure rubber** and one layer of vulcanized india-rubber, cotton braided and impregnated with preservative compound.

### CLASS No. 910.

No. and diameter of conductors.	Nominal area.	Approx. overall diameter.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
No./ins. <b>1/.036</b>	Sq. ins. <b>.001</b>	ins. .118	lb. 32	W <b>9457</b>	£ s. d. <b>12 0 0</b>
<b>1/.044</b>	<b>.0015</b>	.126	40	W <b>9459</b>	<b>13 10 0</b>
<b>3/.020</b>	<b>.0009</b>	.112	24	W <b>9461</b>	<b>13 10 0</b>
<b>3/.029</b>	<b>.002</b>	.145	54	W <b>9463</b>	<b>17 10 0</b>
<b>3/.036</b>	<b>.003</b>	.16	72	W <b>9465</b>	<b>21 10 0</b>

Lengths under 50 yards **10%** extra.

## MOTOR CAR IGNITION FLEXIBLES

### HIGH TENSION

**SPECIFICATION.**—Conductors of tinned copper wires, insulated with one layer of pure and two layers of vulcanized india-rubber, to external diameters as given below.

#### CLASS No. 920.

No. and diameter of conductors.	Nominal area.	Approx. overall diameter.	Approx. weight per 100 yards.	Cat. No.	Price per 100 yards.
No./ins.	Sq. ins.	mm.	lb.		£ s. d.
41/.010	.0032	10	28	W <b>9477</b>	5 10 0
41/.010	.0032	9	23	W <b>9479</b>	4 10 0
41/.010	.0032	8	19	W <b>9481</b>	3 17 6
41/.010	.0032	7	15	W <b>9483</b>	3 0 0

These flexibles are stocked in natural colour, but they can also be supplied in Red, White, Black, Blue, Green, Yellow or Brown (prices on application). The 7-mm. and 8-mm. Flexibles can be supplied in Glazed Braided finish in White, Black, Red, Blue, Green or Yellow (prices on application).

### LOW TENSION

**SPECIFICATION.**—Conductors of tinned copper wires, insulated with one layer of pure india-rubber and two layers of vulcanized india-rubber.

#### CLASS No. 922.

No. and diameter of conductors.	Nominal area.	Approx. overall diameter.	Approx. weight per 100 yards.	Cat. No.	Price per 100 yards.
No./ins.	Sq. ins.	mm.	lb.		£ s. d.
68/.0084	.0037	5	12	W <b>9505</b>	2 5 0

Lengths under 25 yards **10%** extra.

## MOTOR CAR LIGHTING FLEXIBLES

**For Pressures not exceeding 12 volts. Complying with S.M.M.T. Specification and B.E.S. No. 5002.**

**SPECIFICATION.**—Conductors of tinned copper wires, insulated with vulcanized india-rubber. Cores stranded, cotton wormed circular (or flat twin, the two cores laid flat), lapped with cambric tape, fine cotton braided, and glazed varnished overall.

#### GLAZED BRAIDED—CLASS No. 935.

Service.	No. of cores and No. and diam. of conductors.	Approx. overall diam.	Type of construction.	Approx. weight per 100 yards.	Cat. No.	Price per 100 yards.
	No. × No./ins.	ins.		lb.		£ s. d.
Dynamo with Insulated Return	2 × 35/.012 } 1 × 14/.012 }	.32	Circular	22.2	W <b>9553</b>	6 10 0
Battery do.	2 × 35/.012 { .17 × .304 }	.314	Circular	18.8	W <b>9554</b>	6 5 0
		.17 × .304	Flat	15.4	W <b>9555</b>	4 5 0
Lamp do.	2 × 14/.012 { .14 × .244 }	.254	Circular	10.5	W <b>9556</b>	4 5 0
		.14 × .244	Flat	7.9	W <b>9557</b>	2 12 6
Battery with Earth Return	1 × 35/.012	.18	Circular	8.4	W <b>9558</b>	3 0 0
Lamp do.	1 × 14/.012	.15	Circular	4.7	W <b>9559</b>	2 5 0

Lengths under 25 yards **10%** extra.

# **MOTOR CAR LIGHTING FLEXIBLES** **(METALLIC ARMoured)**

For pressures not exceeding 12 volts. Complying with S.M.M.T. Specification and B.E.S. No. 5002.



**SPECIFICATION.**—Conductors of tinned copper wires, insulated with vulcanized india-rubber, one core red, one black, and in the case of triple cables the smallest core white. Two or more cores, wormed circular with jute or cotton filling and lapped with varnished cambric tape not less than .010 in. total thickness, either in two layers or one layer with 50 per cent. overlap, and armoured with a close spiral of semi-oval section metal strip.

## **METALLIC ARMoured—CLASS No. 930.**

Service.	No. of cores and No. and diameter of conductors.	Approx. overall diam.	Colour of Wornings.	Type of Armouring.	Approx. weight per 100 yards.	Cat. No.	Price per 100 yards.
	No. × No./ins.	ins.			lb.		£ s. d.
Dynamo with Insulated Return	$\left\{ \begin{array}{l} 2 \times 35/.012 \\ 1 \times 14/.012 \end{array} \right\}$	.38	Red	$\left\{ \begin{array}{l} \text{Brass} \\ \text{Alum'm} \end{array} \right\}$	$\left\{ \begin{array}{l} 33.58 \\ 24.75 \end{array} \right\}$	W <b>9515</b>	<b>9 15 0</b>
Battery do.	$2 \times 35/.012$	.37	Natural	$\left\{ \begin{array}{l} \text{Brass} \\ \text{Alum'm} \end{array} \right\}$	$\left\{ \begin{array}{l} 31.62 \\ 22.85 \end{array} \right\}$	W <b>9519</b>	<b>9 0 0</b>
Lamp do.	$2 \times 14/.012$	.29	Black	$\left\{ \begin{array}{l} \text{Brass} \\ \text{Alum'm} \end{array} \right\}$	$\left\{ \begin{array}{l} 20.94 \\ 13.78 \end{array} \right\}$	W <b>9523</b>	<b>6 5 0</b>
Battery with Earth Return	$\left\{ \begin{array}{l} 1 \times 35/.012 \end{array} \right\}$	.225	—	$\left\{ \begin{array}{l} \text{Brass} \\ \text{Alum'm} \end{array} \right\}$	$\left\{ \begin{array}{l} 15 \\ 10 \end{array} \right\}$	W <b>9527</b>	<b>4 10 0</b>
Lamp do.	$1 \times 14/.012$	.19	—	$\left\{ \begin{array}{l} \text{Brass} \\ \text{Alum'm} \end{array} \right\}$	$\left\{ \begin{array}{l} 10 \\ 5.75 \end{array} \right\}$	W <b>9531</b>	<b>3 7 6</b>
						W <b>9529</b>	<b>3 7 6</b>
						W <b>9533</b>	<b>2 7 6</b>

## **TOUGH RUBBER SHEATHED**

**SPECIFICATION.**—Conductors of tinned copper wires, insulated with vulcanized india-rubber, one core red, one black, and in the case of triple cables the smallest core white. Two or more cores laid together and tough rubber sheathed overall, to a circular section, the interstices between the cores being filled in solid with tough rubber compound.

## **TOUGH RUBBER SHEATHED—CLASS No. 931.**

Service.	No. of cores and No. and diameter of conductors.	Thick-ness of solid rubber sheath-ing.	Approx. overall diam.	Approx. weight per 100 yards.	Cat. No.	Price per 100 yards.
	No. × No./ins.	ins.	ins.	lb.		£ s. d.
Dynamo with Insulated Return	$\left\{ \begin{array}{l} 2 \times 35/.012 \\ 1 \times 14/.012 \end{array} \right\}$	.05	.4	32.25	W <b>9543</b>	<b>11 12 0</b>
Battery do.	$2 \times 35/.012$	.05	.39	30.24	W <b>9545</b>	<b>10 12 0</b>
Lamp do.	$2 \times 14/.012$	.05	.31	18.93	W <b>9547</b>	<b>6 18 0</b>
Battery with Earth Return	$1 \times 35/.012$	.05	.25	12.75	W <b>9549</b>	<b>4 8 0</b>
Lamp do.	$1 \times 14/.012$	.05	.22	8	W <b>9551</b>	<b>3 4 0</b>

## MOTOR CAR STARTER CABLES



**SPECIFICATION.**—Conductors of tinned copper wires, insulated with vulcanized india-rubber, and—

**Class No. 940—Braided Cables.** The core lapped with india-rubber coated tape, braided, and black compounded.

**Class No. 941—Armoured Cables.** The core lapped with india-rubber coated tape and then with varnished cambric tape not less than .010 inch total thickness, either in two layers or one layer with 50 per cent. overlap, and armoured with a close spiral of semi-oval section metal strip.

**Class No. 942—Tough Rubber Sheathed Cables.** The core tough rubber sheathed overall.

### BRAIDED—CLASS No. 940.

No. and diameter of conductors.	Thickness of Insulation.	Approx. overall diameter.	Approx. weight per 100 yards.	Cat. No.	Price per 100 yards.
No./ins.	ins.	ins.	lb.		£ s. d.
<b>37/.036</b>	.055	.466	66.08	W <b>9561</b>	<b>11 14 0</b>
<b>61/.036</b>	.062	.552	102.6	W <b>9567</b>	<b>18 2 0</b>
<b>61/.044</b>	.07	.64	148.27	W <b>9573</b>	<b>25 10 0</b>

### ARMOURED—CLASS No. 941.

No. and diameter of conductors.	Thickness of Insulation.	Type of Armouring.	Approx. overall diam.	Approx. weight per 100 yards.	Cat. No.	Price per 100 yards.
No./ins.	ins.		ins.	lb.		£ s. d.
<b>37/.036</b>	.055	{ Brass	.456	79.26	W <b>9563</b>	<b>20 6 0</b>
		{ Aluminium	.456	67.42	W <b>9565</b>	<b>20 6 0</b>
<b>61/.036</b>	.062	{ Brass	.542	117.67	W <b>9569</b>	<b>28 0 0</b>
		{ Aluminium	.542	103.5	W <b>9571</b>	<b>28 0 0</b>
<b>61/.044</b>	.07	{ Brass	.63	165.87	W <b>9575</b>	<b>36 10 0</b>
		{ Aluminium	.63	149.3	W <b>9577</b>	<b>36 10 0</b>

### TOUGH RUBBER SHEATHED—CLASS No. 942.

No. and diameter of conductors.	Thickness of Insulation.	Thickness of solid rubber sheathing.	Approx. overall diam.	Approx. weight per 100 yards.	Cat. No.	Price per 100 yards.
No./ins.	ins.	ins.	ins.	lb.		£ s. d.
<b>37/.036</b>	.055	.06	.495	73.8	W <b>9587</b>	<b>19 12 0</b>
<b>61/.036</b>	.062	.06	.58	111.45	W <b>9589</b>	<b>27 10 0</b>
<b>61/.044</b>	.07	.07	.69	162.15	W <b>9591</b>	<b>40 10 0</b>

Lengths under 50 yards **10% extra.**

# **BELL AND TELEPHONE WIRES**

## **SINGLE CORE**

### **TOUGH RUBBER SHEATHED**

**SPECIFICATION.**—High conductivity tinned copper wire, tough rubber sheathed overall.

#### **CLASS No. 969.**

Diameter of conductor.	Nominal area.	Approx. overall diameter.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
Ins.	Sq. Ins.	Ins.	Lb.		£ s. d.
<b>.036</b>	<b>.001</b>	<b>.116</b>	<b>30</b>	<b>W 9650</b>	<b>7 7 6</b>

### **PARAFFINED COTTON INSULATION**

**SPECIFICATION.**—High conductivity copper wire, white cotton lapped, coloured cotton lapped and paraffined. Suitable for dry places only.

#### **CLASS No. 970.**

<b>.029</b>	<b>.0006</b>	<b>.04</b>	<b>10</b>	<b>W 9651</b>	<b>1 17 0</b>
<b>.036</b>	<b>.001</b>	<b>.06</b>	<b>15</b>	<b>W 9653</b>	<b>2 7 0</b>

### **INDIA-RUBBER INSULATION—BEST QUALITY**

**SPECIFICATION.**—High conductivity tinned copper wire, pure india-rubber insulated, longitudinally cotton covered and coloured cotton lapped, and the whole well paraffined.

#### **CLASS No. 971.**

<b>.029</b>	<b>.0006</b>	<b>.07</b>	<b>13</b>	<b>W 9663</b>	<b>3 0 0</b>
<b>.036*</b>	<b>.001</b>	<b>.08</b>	<b>19</b>	<b>W 9665</b>	<b>3 8 0</b>
<b>.044</b>	<b>.0015</b>	<b>.09</b>	<b>29</b>	<b>W 9667</b>	<b>4 10 0</b>

\* Formerly known as W 3170 and W 6880, the **STANDARD Wire for Electric Bell Installation.**

### **INDIA-RUBBER INSULATION—ORDINARY QUALITY**

**SPECIFICATION.**—High conductivity tinned copper wire, pure india-rubber insulated, double cotton lapped and paraffined.

#### **CLASS No. 972.**

<b>.029</b>	<b>.0006</b>	<b>.07</b>	<b>12</b>	<b>W 9677</b>	<b>2 15 0</b>
<b>.036</b>	<b>.001</b>	<b>.08</b>	<b>18</b>	<b>W 9679</b>	<b>3 5 0</b>

### **DOUBLE PURE RUBBER BRAIDED**

**SPECIFICATION.**—High conductivity tinned copper wire, insulated with two layers of pure india-rubber, cotton lapped, paraffined, finally cotton braided, and paraffined.

#### **CLASS No. 973.**

<b>.036</b>	<b>.001</b>	<b>.09</b>	<b>20</b>	<b>W 9689</b>	<b>5 5 0</b>
<b>.044</b>	<b>.0015</b>	<b>.125</b>	<b>30</b>	<b>W 9691</b>	<b>6 10 0</b>

# BELL AND TELEPHONE WIRES

## SINGLE CORE

### VULCANIZED RUBBER BRAIDED.

**SPECIFICATION.**—High conductivity tinned copper wire, insulated with vulcanized rubber, cotton braided and paraffined.

#### CLASS No. 974.

Diameter of conductor.	Nominal area.	Approx. overall diameter.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
ins. <b>.036</b>	Sq. ins. <b>.001</b>	ins. <b>.09</b>	lb. <b>22</b>	<b>W 9701</b>	£ s. d. <b>4 15 0</b>

### LEAD COVERED.

**SPECIFICATION.**—High conductivity tinned copper wire, insulated with pure india-rubber, double cotton lapped, paraffined and lead sheathed overall.

#### CLASS No. 975.

<b>.036</b>	<b>.001</b>	<b>.134</b>	<b>228</b>	<b>W 9711</b>	<b>11 2 0</b>
-------------	-------------	-------------	------------	---------------	---------------

## TWIN CORE

### TOUGH RUBBER SHEATHED.

**SPECIFICATION.**—High conductivity tinned copper wire, tough rubber sheathed overall.

#### CLASS No. 979.

No. and diameter of conductors.	Nominal area.	Approx. overall dimensions.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
ins.	Sq. ins.	ins.	lb.		£ s. d.
<b>2 × 1/.036 Flat</b>	<b>.001</b>	<b>.136 × .212</b>	<b>68</b>	<b>W 9718</b>	<b>17 0 0</b>
<b>2 × 1/.036 Twisted</b>	<b>.001</b>	<b>.2 × .116</b>	<b>65</b>	<b>W 9719</b>	<b>17 15 0</b>
<b>2 × 1/.036 Circular</b>	<b>.001</b>	<b>.212 diam.</b>	<b>90</b>	<b>W 9720</b>	<b>21 7 6</b>

### PARAFFINED COTTON INSULATION (FLAT TWIN).

**SPECIFICATION.**—High conductivity copper wire, longitudinally cotton covered, and cotton lapped, two conductors laid side by side, coloured cotton lapped and paraffined.

#### CLASS No. 980.

<b>2 × 1/.029*</b>	<b>.0006</b>	<b>.04 × .08</b>	<b>19</b>	<b>W 9721</b>	<b>6 0 0</b>
<b>2 × 1/.036</b>	<b>.001</b>	<b>.06 × .12</b>	<b>30</b>	<b>W 9723</b>	<b>7 5 0</b>

\* Cat. No. W 9721 can be supplied in small coils of 12 yards, at 1s. 6d. per coil.

### INDIA-RUBBER INSULATION (FLAT TWIN).

**SPECIFICATION.**—High conductivity tinned copper wire, pure india-rubber insulated, longitudinally cotton covered, coloured cotton lapped and paraffined, two conductors laid side by side under a coloured cotton lapping and paraffined.

#### CLASS No. 981.

<b>2 × 1/.029</b>	<b>.0006</b>	<b>.07 × .14</b>	<b>25</b>	<b>W 9733</b>	<b>7 15 0</b>
<b>2 × 1/.036</b>	<b>.001</b>	<b>.08 × .16</b>	<b>36</b>	<b>W 9735</b>	<b>9 0 0</b>

# **BELL AND TELEPHONE WIRES**

## **TWIN CORE**

### **INDIA-RUBBER INSULATION (TWISTED TWIN).**

**SPECIFICATION.**—High conductivity tinned copper wire, pure india-rubber insulated, longitudinally cotton covered, coloured cotton lapped and paraffined. Two conductors twisted spirally together.

#### **CLASS No. 982.**

No. and diameter of conductors.	Nominal area.	Approx. overall diameter.	Approx. weight per 1000 yards.	Cat. No.	Price per 1000 yards.
No. ins.	Sq. ins.	ins.	lb.		£ s. d.
<b>2 × 1/.036</b>	<b>.001</b>	.160	40	<b>W 9745</b>	<b>7 10 0</b>

### **DOUBLE PURE RUBBER BRAIDED (TWISTED TWIN).**

**SPECIFICATION.**—High conductivity tinned copper wire, insulated with two layers of pure india-rubber, cotton lapped, paraffined, finally cotton braided, and paraffined. Two conductors twisted spirally together.

#### **CLASS No. 983.**

<b>2 × 1/.036</b>	<b>.001</b>	.18	42	<b>W 9755</b>	<b>10 5 0</b>
<b>2 × 1/.044</b>	<b>.0015</b>	.21	63	<b>W 9757</b>	<b>12 10 0</b>

### **VULCANIZED RUBBER BRAIDED (TWISTED TWIN).**

**SPECIFICATION.**—High conductivity tinned copper wire, insulated with vulcanized rubber, cotton braided and paraffined. Two conductors twisted spirally together.

#### **CLASS No. 984.**

<b>2 × 1/.036</b>	<b>.001</b>	.18	45	<b>W 9767</b>	<b>10 0 0</b>
-------------------	-------------	-----	----	---------------	---------------

### **LEAD COVERED (CIRCULAR TWIN).**

**SPECIFICATION.**—High conductivity tinned copper wire, insulated with pure india-rubber, double cotton covered, two conductors twisted together, taped, paraffined and lead sheathed overall.

#### **CLASS No. 985.**

<b>2 × 1/.036</b>	<b>.001</b>	.228	412	<b>W 9777</b>	<b>18 2 0</b>
-------------------	-------------	------	-----	---------------	---------------

## **TWIN LEAD-IN TELEPHONE WIRE**

### **LEAD COVERED.**

**To G.P.O. Specification 343 J (10 lb. per Mile Conductor).**

**SPECIFICATION.**—High conductivity enamelled copper wire, double cotton covered, two conductors twisted together, taped, paraffined and lead sheathed overall.

#### **CLASS No. 989.**

<b>2 × 1/.025</b>	<b>.0005</b>	.201	268	<b>W 9830</b>	<b>12 7 0</b>
-------------------	--------------	------	-----	---------------	---------------

## BELL FLEXIBLE

### TWIN

**SPECIFICATION.**—Conductor of plain copper wires, 6/38 S.W.G., longitudinally cotton covered and silk covered.

#### CLASS No. 986.

Covering.	Approx. weight per 1000 yards.	Cat. No.	Price per 100 yards.
Thin	lb. 12	W <b>9787</b>	£ s. d. <b>18 0</b>
Thick	14	W <b>9789</b>	<b>1 0 0</b>

### THREE STRAND

**SPECIFICATION.**—Conductor of plain copper wires, 6/38 S.W.G., longitudinally cotton covered and silk covered.

#### CLASS No. 987.

Covering.	Approx. weight per 1000 yards.	Cat. No.	Price per 100 yards.
Thin	lb. 19	W <b>9799</b>	£ s. d. <b>1 10 0</b>

#### RANGE OF COLOURS

- |                 |               |                 |                 |
|-----------------|---------------|-----------------|-----------------|
| A. Old Gold.    | F. Maroon.    | N. Brown.       | T. White.       |
| B. Dark Green.  | H. Scarlet.   | Q. French Grey. | U. Silver Grey. |
| C. Green.       | J. Dark Blue. | R. Yellow.      |                 |
| D. Light Green. | K. Blue.      | S. Pink.        |                 |

**NOTE.**—Where a flexible cord of a higher class is required, Cat. No. W **9011** Braided Art. Silk is recommended (see page 135).

## MULTIPLE TELEPHONE FLEXIBLE

**SPECIFICATION.**—Conductors of plain copper wires, 10/38 S.W.G., white cotton lapped, coloured cotton lapped, paraffined, all conductors cabled together, further cotton lapped and green silk braided overall.

#### CLASS No. 988.

No. of Conductors .. ..	4	8	10	12
Catalogue No. .. ..	W <b>9809</b>	W <b>9811</b>	W <b>9813</b>	W <b>9815</b>
Price per 100 yards .. ..	£ s. d. <b>2 10 0</b>	£ s. d. <b>4 0 0</b>	£ s. d. <b>4 15 0</b>	£ s. d. <b>6 0 0</b>

No. of Conductors	15	20	25	30	35
Catalogue No.	W <b>9817</b>	W <b>9819</b>	W <b>9821</b>	W <b>9823</b>	W <b>9825</b>
Price per 100 yards	£ s. d. <b>6 10 0</b>	£ s. d. <b>7 0 0</b>	£ s. d. <b>9 15 0</b>	£ s. d. <b>12 10 0</b>	£ s. d. <b>14 0 0</b>



## TELEPHONE CABLES

### BRAIDED INTER-COMMUNICATION TYPE

**SPECIFICATION.**—All line conductors of .029 in. tinned copper wire, pure india-rubber insulated, double cotton covered, paraffined, each conductor of a different colour. Two speaking battery wires 7/.024 in. insulated as above. All conductors cabled together, cotton braided and paraffined overall.

#### CLASS No. 990.

No. of conductors.	Approx. overall diameter.	Approx. weight per 1000 yards.	Cat. No.	Price per 100 yards.
	ins.	lb.		£ s. d.
10	.335	209	W <b>9835</b>	5 0 0
15	.405	275	W <b>9837</b>	6 10 0
20	.413	335	W <b>9839</b>	7 10 0
25	.460	390	W <b>9841</b>	8 15 0
30	.500	464	W <b>9843</b>	10 10 0
35	.540	527	W <b>9845</b>	11 10 0

### LEAD COVERED

### INTER-COMMUNICATION CABLE

**SPECIFICATION.**—All line conductors of .029 in. tinned copper wire, pure rubber insulated, double cotton covered, paraffined, each conductor of a different colour. Two speaking battery wires 7/.024 in. insulated as above. All conductors cabled together, taped, lead sheathed overall.

#### CLASS No. 991.

No. of conductors.	Approx. overall diameter.	Approx. weight per 1000 yards.	Cat. No.	Price per 100 yards.
	ins.	lb.		£ s. d.
10	.398	887	W <b>9855</b>	8 10 0
15	.469	1089	W <b>9857</b>	10 0 0
20	.480	1202	W <b>9859</b>	12 0 0
25	.531	1410	W <b>9861</b>	14 0 0
30	.575	1613	W <b>9863</b>	16 0 0
35	.618	1777	W <b>9865</b>	18 0 0

## TELEPHONE CABLES

### ANTI-INDUCTIVE INTER-COMMUNICATION TYPE

This cable has been specially designed to reduce inductive cross talk with inter-communication types of telephones. Tests show the capacity of anti-inductive telephone cable to be about 20 per cent. above the ordinary type, and the insulation itself is very much higher. Further, every other line conductor is wound with copper strip, which breaks down induction, thus reducing inductive cross talk to a minimum. Anti-inductive inter-communication telephone cable is strongly recommended where a high-class telephone installation is required.

#### BRAIDED

**SPECIFICATION.**—All line conductors of .029 in. tinned copper wire, pure rubber insulated, double cotton covered, each conductor of a different colour and half the number spirally wound with copper strip. Two speaking battery wires .044 in., one insulated as above but without copper strip, the other consisting of bare plain copper wire round which all conductors are cabled. Cotton braided and paraffined overall.

#### CLASS No. 992.

No. of conductors.	Approx. overall diameter.	Approx. weight per 1000 yards.	Cat. No.	Price per 100 yards.		
				£	s.	d.
<b>10</b>	ins. .287	lb. 166	W <b>9875</b>	<b>5</b>	<b>0</b>	<b>0</b>
<b>15</b>	.339	237	W <b>9877</b>	<b>6</b>	<b>10</b>	<b>0</b>
<b>20</b>	.39	313	W <b>9879</b>	<b>7</b>	<b>10</b>	<b>0</b>
<b>25</b>	.445	386	W <b>9881</b>	<b>9</b>	<b>10</b>	<b>0</b>
<b>30</b>	.48	460	W <b>9883</b>	<b>11</b>	<b>10</b>	<b>0</b>
<b>35</b>	.535	532	W <b>9885</b>	<b>13</b>	<b>10</b>	<b>0</b>

#### LEAD COVERED

**SPECIFICATION.**—All line conductors of .029 in. tinned copper wire, paper taped, double cotton covered, each conductor of a different colour and half the number spirally wound with copper strip. Two speaking battery wires .044 in., one insulated as above, but without copper strip, the other consisting of bare plain copper wire round which all conductors are cabled. Taped, impregnated with paraffin and lead sheathed overall.

#### CLASS No. 993.

No. of conductors.	Approx. overall diameter.	Approx. weight per 1000 yards.	Cat. No.	Price per 100 yards.		
				£	s.	d.
<b>10</b>	ins. .356	lb. 743	W <b>9895</b>	<b>8</b>	<b>10</b>	<b>0</b>
<b>15</b>	.423	1067	W <b>9897</b>	<b>10</b>	<b>0</b>	<b>0</b>
<b>20</b>	.482	1350	W <b>9899</b>	<b>12</b>	<b>0</b>	<b>0</b>
<b>25</b>	.545	1660	W <b>9901</b>	<b>14</b>	<b>0</b>	<b>0</b>
<b>30</b>	.581	1830	W <b>9903</b>	<b>16</b>	<b>0</b>	<b>0</b>
<b>35</b>	.644	2166	W <b>9905</b>	<b>18</b>	<b>0</b>	<b>0</b>

Lengths under 50 yards **10%** extra.

## USEFUL CABLE FORMULAE

A = Area of cable in square inches.	D = Distance one way in yards.
B = B.H.P. of motor at end of line.	E = Voltage at end of line.
C = Current to be carried.	F = Power factor.
N = Efficiency of motor.	V = Volts drop allowable in line.
W = Weight of copper wire in lb. per yard.	f = Frequency.
m = Number of magnet poles.	r = Revolutions per minute.

To find	Given	Formulae.
Area of cable	Current. Volts drop in line. Length of line	$A = \frac{C \times 2D}{V \times 38.5 \times 1,000}$
Area of cable	B.H.P. of motor (direct current). Volts at motor. Volts drop in line. Length of line. Efficiency of motor.	$A = \frac{B \times D \times 1.5}{E \times V \times N \times 38.5}$
Area of cable	B.H.P. of motor (three-phase) Volts at motor. Volts drop in line. Length of line. Efficiency of motor. Power factor.	$A = \frac{B \times D \times .75}{E \times V \times N \times F \times 38.5}$
Drop in volts	Area of cable. Current. Length of line.	$V = \frac{C \times 2D}{A \times 38.5 \times 1,000}$
Ampères per phase in three-phase balanced system	KW. in system. Voltage. Power factor.	$\text{Ampères} = \frac{\text{KW.} \times 1,000}{E \times F \times 1.73}$
Total power in three- phase balanced system	Ampères per phase. Voltage. Power factor.	$\text{Power} = \text{Amps.} \times E \times F \times 1.73$
Frequency	Revolutions per minute Number of mag- net poles	$f = \frac{r \times m}{120}$
Weight of copper wire in lb. per yard	Area of cable	$W = A \times 11.56$



## COMPARISON OF WIRE GAUGES

No.	Standard Wire Gauge. British Board of Trade Wire Gauge.				Birmingham. B.W.G.		American Brown & Sharpe's B. & S.	
	Diameter.		Sectional Area.		Diameter.		Diameter.	
	ins.	mm.	Sq. ins.	Sq. mm.	ins.	mm.	ins.	mm.
0000	.400	10.16	.12566	81.09	.454	11.53	.460	11.68
000	.372	9.44	.108686	70.11	.425	10.79	.40964	10.38
00	.348	8.83	.095115	61.35	.380	9.65	.36480	9.27
0	.324	8.22	.082448	53.19	.340	8.63	.32495	8.25
1	.300	7.62	.070686	45.60	.300	7.62	.28930	7.34
2	.276	7.01	.059821	38.59	.284	7.21	.25763	6.54
3	.252	6.40	.049876	32.17	.259	6.58	.22942	5.82
4	.232	5.89	.042273	27.27	.238	6.04	.20431	5.18
5	.212	5.38	.035299	22.77	.220	5.59	.18194	4.61
6	.192	4.87	.028952	18.67	.203	5.16	.16202	4.11
7	.176	4.47	.024328	15.69	.180	4.57	.14428	3.66
8	.160	4.06	.020106	12.97	.165	4.19	.12849	3.26
9	.144	3.65	.016286	10.51	.148	3.76	.11443	2.90
10	.128	3.25	.012867	8.32	.134	3.40	.10189	2.58
11	.116	2.94	.010568	6.82	.120	3.05	.09074	2.30
12	.104	2.64	.008494	5.48	.109	2.77	.08081	2.05
13	.092	2.33	.006647	4.29	.095	2.41	.07196	1.82
14	.080	2.03	.005026	3.24	.083	2.11	.06408	1.62
15	.072	1.82	.004071	2.63	.072	1.83	.05706	1.44
16	.064	1.62	.003217	2.07	.065	1.65	.05082	1.29
17	.056	1.42	.002463	1.59	.058	1.47	.04525	1.14
18	.048	1.21	.001809	1.19	.049	1.24	.04030	1.02
19	.040	1.01	.001256	.810	.042	1.07	.03539	.898
20	.036	.914	.001017	.656	.035	.889	.03196	.811
21	.032	.813	.000804	.518	.032	.813	.02846	.722
22	.028	.711	.000615	.397	.028	.711	.025347	.643
23	.024	.610	.000452	.291	.025	.635	.022571	.573
24	.022	.559	.000380	.245	.022	.559	.02010	.510
25	.020	.508	.000314	.202	.020	.508	.01790	.454
26	.018	.457	.000254	.164	.018	.457	.01594	.404
27	.0164	.416	.000211	.136	.016	.406	.014195	.360
28	.0148	.376	.000172	.111	.014	.356	.012641	.321
29	.0136	.345	.000145	.0937	.013	.330	.011257	.285
30	.0124	.315	.000120	.0791	.012	.305	.010025	.254
31	.0116	.294	.000105	.0677	.0115	.292	.008928	.226
32	.0108	.274	.000090	.0591	.0110	.279	.007950	.201
33	.0100	.254	.000078	.0503	.0100	.254	.00708	.179
34	.0092	.233	.000066	.0426	.0095	.241	.00630	.160
35	.0084	.213	.000055	.0355	.0087	.221	.00561	.142
36	.0076	.193	.000045	.0290	.0079	.201	.00500	.127
37	.0068	.172	.000036	.0239	.0073	.185	.004053	.113
38	.0060	.152	.000028	.0181	.0068	.173	.003965	.1007
39	.0052	.132	.000021	.0135	.0063	.160	.003531	.0896
40	.0048	.122	.000018	.0116	.0058	.147	.003144	.0790

## STRANDED CONDUCTORS

(HARD DRAWN COPPER)

### BRITISH STANDARD SIZES

#### PRIMARY CONDUCTORS.

Standard nominal area.	Stranding and Wire diameter.	Overall diameter (approx.).	Standard weight per 1000 yards.	Standard resistance at 60° F. per 1000 yards.	Standard resistance at 20° C. per 1000 yards.	Minimum ultimate strength of wire before stranding.
Sq. ins.	No./ins.	ins.	lb.	ohms.	ohms.	lb.
.025	3/.104	.224	300.6	.989	1.006	550
.05	3/.147	.317	600.5	.494	.503	1056
.075	3/.18	.388	900.3	.329	.335	1540
.1	7/.136	.408	1196	.247	.251	912
.125	7/.152	.456	1494	.198	.201	1123
.15	7/.166	.498	1782	.166	.169	1324
.175	7/.18	.54	2095	.141	.143	1540
.2	7/.193	.579	2408	.122	.125	1750
.225	7/.204	.612	2691	.11	.112	1943
.25	7/.215	.645	2989	.099	.1	2142
.3	19/.144	.72	3646	.081	.083	1016
.4	19/.166	.83	4845	.061	.062	1324
.5	19/.185	.925	6017	.049	.05	1621
.6	37/.144	1.008	7103	.042	.042	1016
.75	37/.162	1.134	8989	.033	.034	1266

#### SECONDARY CONDUCTORS.

Standard nominal area.	Stranding and Wire diameter.	Overall diameter (approx.).	Standard weight per 1000 yards.	Standard resistance at 60° F. per 1000 yards.	Standard resistance at 20° C. per 1000 yards.	Minimum ultimate strength of wire before stranding.
Sq. ins.	No./ins.	ins.	lb.	ohms.	ohms.	lb.
.022	7/.064	.192	264.8	1.116	1.136	213
.035	7/.08	.24	413.8	.714	.727	330
.046	7/.092	.276	547.2	.54	.55	434
.058	7/.104	.312	699.3	.423	.43	550
.06	19/.064	.32	720.1	.412	.419	213
.094	19/.08	.4	1125	.264	.268	330
.125	19/.092	.46	1488	.199	.203	434
.15	19/.101	.505	1793	.165	.168	520
.175	19/.109	.545	2089	.142	.145	602
.2	19/.116	.58	2366	.125	.128	676
.225	19/.124	.62	2703	.11	.112	769
.25	19/.131	.655	3017	.098	.1	852
.375	19/.16	.800	4501	.066	.067	1237

The above tables are abstracted by permission of the British Standards Institution from British Standard Specification No. 125 (1924).



# GALVANIZED STEEL WIRES AND CABLES

## STANDARD SIZES

### SINGLE WIRES.

S.W.G.	Diameter.	Area.	Weight per 1000 yards (approx.).	Breaking Load (approx.).		
				25 tons per sq. in.	45 tons per sq. in.	60 tons per sq. in.
	ins.	Sq. ins.	lb.	lb.	lb.	lb.
4	.232	.0423	423	2670	4800	6400
5	.212	.0353	363	1970	3560	4750
6	.192	.0289	292	1620	2915	3890
7	.176	.0243	246	1360	2450	3260
8	.16	.0201	206	1125	2020	2700
9	.144	.0163	167	910	1640	2180
10	.128	.0129	133	720	1290	1720
11	.116	.0106	109	592	1060	1413
12	.104	.0085	87	474	850	1133
13	.092	.0066	68	368	660	880
14	.08	.005	52	279	500	666
15	.072	.0041	42	229	410	547
16	.064	.0032	33	179	320	427

### STRANDED CABLES.

S.W.G.	Diameter.	Area.	Weight per 1000 yards (approx.).	Breaking Load (approx.).		
				25 tons per sq. in.	45 tons per sq. in.	60 tons per sq. in.
	ins.	Sq. ins.	lb.	lb.	lb.	lb.
7/8	.48	.1383	1540	7400	13300	17800
7/9	.432	.1121	1230	6000	10700	14400
7/10	.384	.0887	980	4740	8520	11360
7/11	.348	.0729	810	3890	7000	9330
7/12	.312	.0585	655	3130	5630	7510
7/13	.276	.0454	515	2440	4410	5870
7/14	.24	.0344	360	1885	3340	4450
7/15	.216	.0282	290	1500	2710	3610
7/16	.192	.022	240	1185	2130	2840
7/17	.168	.017	180	910	1640	2180
7/18	.144	.013	130	660	1200	1600
3/8	.344	.0603	660	3360	5220	7830
19/8	.8	.3819	4150	21280	33060	49590

# ANNEALED COPPER WIRES

## BRITISH STANDARD SIZES

S.W.G.	Standard diameter.	Calculated sectional area.	Calculated weight per 1000 yards.	Standard resistance of plain wires per 1000 yards.	Standard resistance of tinned wires per 1000 yards.
	in.	Sq. in.	lb.	ohms.	ohms.
21	<i>.030</i>	<i>.0007069</i>	<i>8.175</i>	<i>33.96</i>	<i>34.64</i>
	<i>.032</i>	<i>.0008042</i>	<i>9.301</i>	<i>29.85</i>	<i>30.45</i>
	<i>.034</i>	<i>.0009079</i>	<i>10.500</i>	<i>26.44</i>	<i>26.97</i>
20	<b>.036</b>	<b>.0010179</b>	<b>11.772</b>	<b>23.59</b>	<b>24.06</b>
	<i>.038</i>	<i>.0011341</i>	<i>13.116</i>	<i>21.17</i>	<i>21.38</i>
	<i>.040</i>	<i>.0012566</i>	<i>14.533</i>	<i>19.105</i>	<i>19.296</i>
19	<i>.042</i>	<i>.0013854</i>	<i>16.022</i>	<i>17.329</i>	<i>17.502</i>
	<i>.044</i>	<i>.0015205</i>	<i>17.585</i>	<i>15.789</i>	<i>15.947</i>
	<i>.046</i>	<i>.0016619</i>	<i>19.220</i>	<i>14.446</i>	<i>14.590</i>
18	<b>.048</b>	<b>.0018096</b>	<b>20.93</b>	<b>13.267</b>	<b>13.400</b>
	<i>.050</i>	<i>.0019635</i>	<i>22.71</i>	<i>12.227</i>	<i>12.349</i>
	<i>.052</i>	<i>.002124</i>	<i>24.56</i>	<i>11.305</i>	<i>11.418</i>
17	<i>.054</i>	<i>.002290</i>	<i>26.49</i>	<i>10.483</i>	<i>10.588</i>
	<i>.056</i>	<i>.002463</i>	<i>28.48</i>	<i>9.747</i>	<i>9.845</i>
	<i>.058</i>	<i>.002642</i>	<i>30.56</i>	<i>9.087</i>	<i>9.178</i>
16	<i>.060</i>	<i>.002827</i>	<i>32.70</i>	<i>8.491</i>	<i>8.576</i>
	<b>.064</b>	<b>.003217</b>	<b>37.20</b>	<b>7.463</b>	<b>7.537</b>
	<i>.068</i>	<i>.003632</i>	<i>42.00</i>	<i>6.611</i>	<i>6.677</i>
15	<i>.072</i>	<i>.004072</i>	<i>47.09</i>	<i>5.897</i>	<i>5.956</i>
	<i>.076</i>	<i>.004536</i>	<i>52.46</i>	<i>5.292</i>	<i>5.345</i>
	<b>.080</b>	<b>.005027</b>	<b>58.13</b>	<b>4.776</b>	<b>4.824</b>
14	<i>.084</i>	<i>.005542</i>	<i>64.09</i>	<i>4.332</i>	<i>4.375</i>
	<i>.088</i>	<i>.006082</i>	<i>70.34</i>	<i>3.947</i>	<i>3.987</i>
	<i>.092</i>	<i>.006648</i>	<i>76.88</i>	<i>3.612</i>	<i>3.648</i>
13	<i>.096</i>	<i>.007238</i>	<i>83.71</i>	<i>3.317</i>	<i>3.350</i>
	<i>.100</i>	<i>.007854</i>	<i>90.83</i>	<i>3.057</i>	<i>3.087</i>
	<b>.104</b>	<b>.008495</b>	<b>98.24</b>	<b>2.826</b>	<b>2.854</b>
12	<i>.108</i>	<i>.009161</i>	<i>105.94</i>	<i>2.621</i>	<i>2.647</i>
	<i>.112</i>	<i>.009852</i>	<i>113.94</i>	<i>2.437</i>	<i>2.461</i>
	<i>.116</i>	<i>.010568</i>	<i>122.22</i>	<i>2.272</i>	<i>2.294</i>
11	<i>.120</i>	<i>.011310</i>	<i>130.79</i>	<i>2.123</i>	<i>2.144</i>
	<i>.124</i>	<i>.012076</i>	<i>139.66</i>	<i>1.9880</i>	<i>2.008</i>
	<b>.128</b>	<b>.012868</b>	<b>148.82</b>	<b>1.8657</b>	<b>1.8844</b>
10	<i>.132</i>	<i>.013685</i>	<i>158.26</i>	<i>1.7544</i>	<i>1.7719</i>
	<i>.136</i>	<i>.014527</i>	<i>168.00</i>	<i>1.6527</i>	<i>1.6692</i>
	<i>.140</i>	<i>.015394</i>	<i>178.03</i>	<i>1.5596</i>	<i>1.5752</i>
9	<i>.144</i>	<i>.016286</i>	<i>188.34</i>	<i>1.4741</i>	<i>1.4889</i>
	<i>.148</i>	<i>.017203</i>	<i>198.95</i>	<i>1.3955</i>	<i>1.4095</i>
	<i>.152</i>	<i>.018146</i>	<i>209.9</i>	<i>1.3231</i>	<i>1.3363</i>
8	<b>.160</b>	<b>.02011</b>	<b>232.5</b>	<b>1.1941</b>	<b>1.2060</b>
	<i>.168</i>	<i>.02217</i>	<i>256.4</i>	<i>1.0830</i>	<i>1.0939</i>
	<i>.176</i>	<i>.02433</i>	<i>281.4</i>	<i>.9868</i>	<i>.9967</i>
7	<i>.184</i>	<i>.02659</i>	<i>307.5</i>	<i>.9029</i>	<i>.9119</i>
	<b>.192</b>	<b>.02895</b>	<b>334.8</b>	<b>.8292</b>	<b>.8375</b>
	<i>.212</i>	<i>.03530</i>	<i>408.2</i>	<i>.6801</i>	<i>.6869</i>
6	<b>.232</b>	<b>.04227</b>	<b>488.9</b>	<b>.5679</b>	<b>.5736</b>
	<i>.252</i>	<i>.04988</i>	<i>576.8</i>	<i>.4814</i>	<i>.4862</i>
	<b>.276</b>	<b>.05983</b>	<b>691.9</b>	<b>.4013</b>	<b>.4053</b>
5	<i>.300</i>	<i>.07069</i>	<i>817.5</i>	<i>.3396</i>	<i>.3430</i>
	<b>.324</b>	<b>.08245</b>	<b>953.5</b>	<b>.2812</b>	<b>.2841</b>
	<i>.348</i>	<i>.09511</i>	<i>1100.0</i>	<i>.2524</i>	<i>.2549</i>
4	<b>.372</b>	<b>.10869</b>	<b>1256.9</b>	<b>.2209</b>	<b>.2231</b>
	<i>.400</i>	<i>.12586</i>	<i>1453.3</i>	<i>.19105</i>	<i>.19296</i>
	<b>.432</b>	<b>.14657</b>	<b>1695.1</b>	<b>.16379</b>	<b>.16543</b>
3	<i>.464</i>	<i>.16909</i>	<i>1955.5</i>	<i>.14198</i>	<i>.14340</i>
	<b>.500</b>	<b>.19635</b>	<b>2271</b>	<b>.12227</b>	<b>.12349</b>
2					
1					
1/0					
2/0					
3/0					
4/0					
5/0					
6/0					
7/0					

NOTE.—The sizes printed in heavy type are Primary Standard Sizes for adoption wherever possible. The sizes in ordinary type are Secondary Standard Sizes, to which preference should be given when Primary Sizes do not meet the need. The sizes printed in italics are not recommended for general use.

The above table is abstracted by permission of the British Standards Institution from British Standard Specification No. 128 (1929).



# ANNEALED COPPER WIRES

## BRITISH STANDARD SIZES

S.W.G.	Standard diameter	Calculated sectional area.	Calculated weight per 1000 yards.	Standard resistance of plain wires per 1000 yards.	Standard resistance of tinned wires per 1000 yards.
	in.	Sq. in.	lb.	ohms.	ohms.
<b>50</b>	<b>.0010</b>	<b>.000007854</b>	<b>.009083</b>	<b>30568</b>	—
<b>49</b>	<b>.0012</b>	<b>.0000011310</b>	<b>.013079</b>	<b>21228</b>	—
	<b>.0014</b>	<b>.0000015394</b>	<b>.017803</b>	<b>15596</b>	—
<b>48</b>	<b>.0016</b>	<b>.000002011</b>	<b>.02325</b>	<b>11941</b>	—
	<b>.0018</b>	<b>.000002545</b>	<b>.02943</b>	<b>9435</b>	—
<b>47</b>	<b>.0020</b>	<b>.000003142</b>	<b>.03633</b>	<b>7642</b>	—
	<b>.0022</b>	<b>.000003801</b>	<b>.04396</b>	<b>6316</b>	—
<b>46</b>	<b>.0024</b>	<b>.000004524</b>	<b>.05232</b>	<b>5307</b>	—
	<b>.0026</b>	<b>.000005309</b>	<b>.06140</b>	<b>4522</b>	—
<b>45</b>	<b>.0028</b>	<b>.000006158</b>	<b>.07121</b>	<b>3899</b>	—
	<b>.0030</b>	<b>.000007069</b>	<b>.08175</b>	<b>3396</b>	—
<b>44</b>	<b>.0032</b>	<b>.000008042</b>	<b>.09301</b>	<b>2985</b>	—
<b>43</b>	<b>.0036</b>	<b>.000010179</b>	<b>.11772</b>	<b>2359</b>	—
<b>42</b>	<b>.0040</b>	<b>.000012568</b>	<b>.14533</b>	<b>1910.5</b>	—
<b>41</b>	<b>.0044</b>	<b>.000015205</b>	<b>.17585</b>	<b>1578.9</b>	—
<b>40</b>	<b>.0048</b>	<b>.000018096</b>	<b>.2093</b>	<b>1326.7</b>	—
<b>39</b>	<b>.0052</b>	<b>.00002124</b>	<b>.2456</b>	<b>1130.5</b>	—
	<b>.0056</b>	<b>.00002463</b>	<b>.2848</b>	<b>974.7</b>	—
<b>38</b>	<b>.0060</b>	<b>.00002827</b>	<b>.3270</b>	<b>849.1</b>	—
	<b>.0064</b>	<b>.00003217</b>	<b>.3720</b>	<b>746.3</b>	—
<b>37</b>	<b>.0068</b>	<b>.00003632</b>	<b>.4200</b>	<b>661.1</b>	—
	<b>.0072</b>	<b>.00004072</b>	<b>.4709</b>	<b>589.7</b>	—
<b>36</b>	<b>.0076</b>	<b>.00004536</b>	<b>.5246</b>	<b>529.2</b>	<b>539.8</b>
	<b>.0080</b>	<b>.00005027</b>	<b>.5813</b>	<b>477.6</b>	<b>487.2</b>
<b>35</b>	<b>.0084</b>	<b>.00005542</b>	<b>.6409</b>	<b>433.2</b>	<b>441.9</b>
	<b>.0088</b>	<b>.00006082</b>	<b>.7034</b>	<b>394.7</b>	<b>402.6</b>
<b>34</b>	<b>.0092</b>	<b>.00006648</b>	<b>.7688</b>	<b>361.2</b>	<b>368.4</b>
	<b>.0096</b>	<b>.00007238</b>	<b>.8371</b>	<b>331.7</b>	<b>338.3</b>
<b>33</b>	<b>.0100</b>	<b>.00007854</b>	<b>.9083</b>	<b>305.7</b>	<b>311.8</b>
	<b>.0104</b>	<b>.00008495</b>	<b>.9824</b>	<b>282.6</b>	<b>288.3</b>
<b>32</b>	<b>.0108</b>	<b>.00009161</b>	<b>1.0594</b>	<b>262.1</b>	<b>267.3</b>
	<b>.0112</b>	<b>.00009852</b>	<b>1.1394</b>	<b>243.7</b>	<b>248.6</b>
<b>31</b>	<b>.0116</b>	<b>.00010568</b>	<b>1.2222</b>	<b>227.2</b>	<b>231.7</b>
	<b>.0120</b>	<b>.00011310</b>	<b>1.3079</b>	<b>212.3</b>	<b>216.5</b>
<b>30</b>	<b>.0124</b>	<b>.00012076</b>	<b>1.3966</b>	<b>198.80</b>	<b>202.8</b>
	<b>.0130</b>	<b>.00013273</b>	<b>1.5350</b>	<b>180.87</b>	<b>184.49</b>
<b>29</b>	<b>.0136</b>	<b>.00014527</b>	<b>1.6800</b>	<b>165.27</b>	<b>168.57</b>
	<b>.0142</b>	<b>.00015837</b>	<b>1.8315</b>	<b>151.60</b>	<b>154.63</b>
<b>28</b>	<b>.0148</b>	<b>.00017203</b>	<b>1.9895</b>	<b>139.55</b>	<b>142.34</b>
	<b>.0156</b>	<b>.00019113</b>	<b>2.210</b>	<b>125.61</b>	<b>128.12</b>
<b>27</b>	<b>.0164</b>	<b>.0002112</b>	<b>2.443</b>	<b>113.65</b>	<b>115.92</b>
	<b>.0172</b>	<b>.0002324</b>	<b>2.687</b>	<b>103.33</b>	<b>105.39</b>
<b>26</b>	<b>.018</b>	<b>.0002545</b>	<b>2.943</b>	<b>94.35</b>	<b>96.23</b>
	<b>.019</b>	<b>.0002835</b>	<b>3.279</b>	<b>84.68</b>	<b>86.37</b>
<b>25</b>	<b>.020</b>	<b>.0003142</b>	<b>3.633</b>	<b>76.42</b>	<b>77.95</b>
	<b>.021</b>	<b>.0003464</b>	<b>4.006</b>	<b>69.31</b>	<b>70.70</b>
<b>24</b>	<b>.022</b>	<b>.0003801</b>	<b>4.396</b>	<b>63.16</b>	<b>64.42</b>
	<b>.023</b>	<b>.0004155</b>	<b>4.805</b>	<b>57.78</b>	<b>58.94</b>
<b>23</b>	<b>.024</b>	<b>.0004524</b>	<b>5.232</b>	<b>53.07</b>	<b>54.13</b>
	<b>.025</b>	<b>.0004909</b>	<b>5.677</b>	<b>48.91</b>	<b>49.89</b>
	<b>.026</b>	<b>.0005309</b>	<b>6.140</b>	<b>45.22</b>	<b>46.12</b>
<b>22</b>	<b>.027</b>	<b>.0005726</b>	<b>6.621</b>	<b>41.93</b>	<b>42.77</b>
	<b>.028</b>	<b>.0006158</b>	<b>7.121</b>	<b>38.99</b>	<b>39.77</b>
	<b>.029</b>	<b>.0006605</b>	<b>7.639</b>	<b>36.35</b>	<b>37.07</b>

NOTE.—The sizes printed in heavy type are Primary Standard Sizes for adoption wherever possible. The sizes in ordinary type are Secondary Standard Sizes, to which preference should be given when Primary Sizes do not meet the need. The sizes printed in italics are not recommended for general use.

The above table is abstracted by permission of the British Standards Institution from British Standard Specification No. 128 (1929).

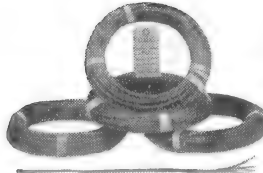


## BARE COPPER WIRES AND STRANDS

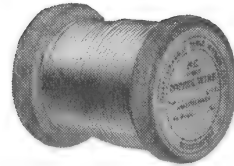
### HARD DRAWN AND SOFT DRAWN



WS 1001/05



WS 1015/17



WS 1027/33

The G.E.C. possesses exceptional facilities for the manufacture of any quantities of bare copper solid wires and bare copper stranded cables in all sizes for electric transmission for telegraph, telephone, lighting, power and traction work, etc. All wires have a guaranteed conductivity equal to the specification of the British Standards Institution and comply with the limits of tolerance in gauge laid down therein.

Quotations can be given for all sizes, and large quantities can be produced within a few days. The schedule below is confined to standard stock sizes.

### BARE COPPER SOLID WIRES

#### HARD DRAWN

Size.	Diam.	Approx. weight per 1000 yards.	Cat. No.	Price per lb.		
				7 lb. coils.	14 lb. coils.	28 lb. coils.
S.W.G.	Ins.	Lb.		s. d.	s. d.	s. d.
14	.080	58.13	WS 1001			
16	.064	37.20	WS 1003	1 6	1 5	1 4
18	.048	20.93	WS 1005			

### BARE COPPER AERIAL FOR WIRELESS ANTENNÆ

#### HARD DRAWN

No. and size.	No. and diam.	Approx. weight.	Cat. No.	Description.	Price
No./S.W.G.	No./Ins.	Lb. Per coil of 100 ft. 1.76	WS 1015	In coils of 100 ft.	s. d. per coil 3 0
7/22	7/.028	Per 1000 yds. 52.80	WS 1017	In long lengths	Prices on application.

### TINNED COPPER BINDING WIRE

#### SOFT DRAWN

Size.	Diam.	Description.	Cat. No.	Price per lb.
S.W.G.	Ins.			s. d.
16	.064	On 1 lb. reels .. ..	WS 1027	2 0
18	.048		WS 1029	2 0
20	.036	On ½ lb. reels .. ..	WS 1031	2 3
22	.028		WS 1033	2 3

Prices for large quantities quoted on application.

*All prices are subject to market fluctuations.*

## BARE WIRES SILICIUM BRONZE WIRE

Size.	Diam.	Approx. weight per 1000 yds.		Total breaking strain.		Cat. No.	Price per lb.		
							7 lb. hanks. = 3.17 kgs.	14 lb. hanks. = 6.35 kgs.	28 lb. hanks. = 12.7 kgs.
S.W.G.	ins.	lb.	kg.	lb.	kg.		s. d.	s. d.	s. d.
14	.080	58.13	305	138.500	WS 1043	WS 1045 WS 1047	1 8	1 7	1 6
16	.064	37.20	199	90.475					
18	.048	20.93	112	50.890					

## CADMIUM-COPPER WIRE For Radio Relay Installation To British Standard Specification No. 175.

Diameter.	Weight per statute mile	Minimum breaking load of wire of standard weight.	Maximum resistance per mile of standard weight at 60° F.	Cat. No.	Price.
ins.	lb.	lb.	ohms.		
.079	100	485	10.5	WS 1051	On application
.064	70	345	15	WS 1053	
.050	40	200	26	WS 1055	

## GALVANIZED IRON WIRE

Size.	Diam.	Approx. weight.		Approx. breaking strain.	Approx. resistance.		Cat. No.	Price per cwt.
		per 1000 yds.	per kilometre.		per mile.	per kilometre.		
S.W.G.	ins.	lb.	kg.	lb.	ohms.	ohms.		£ s. d.
11	.116	108	53.56	592	31.6	19.30	WS 1069	2 5 0
14	.080	51	25.36	281	66.6	40.77	WS 1071	2 10 0
16	.064	33	19.90	180	103.5	63.22	WS 1073	2 15 0
7/16	7/064	233	237.5	1320	—	—	WS 1075	4 0 0

## TINNED STEEL BINDING WIRE For Armature Winding

Size.	Diameter.	Approx. weight per 1000 yds.	Approx. breaking strain.	Cat. No.	Price per lb.
S.W.G.	ins.	lb.	lb.		s. d.
14	.080	51.00	1013	WS 1085	2 3
16	.064	33.00	649	WS 1089	2 3
18	.048	18.00	364	WS 1091	2 3
20	.036	10.00	205	WS 1093	2 3
22	.028	6.28	124	WS 1095	2 6
24	.022	3.87	77	WS 1097	3 0
26	.018	2.59	51	WS 1099	3 6
28	.0148	1.75	31	WS 1101	4 0
30	.0124	1.23	22	WS 1103	4 6
32	.0108	.93	18	WS 1105	5 0
34	.0092	.69	13	WS 1107	5 6

Prices for large quantities quoted on application.

All prices are subject to market fluctuations.

# NICKEL CHROME HIGH RESISTANCE WIRE FOR HEATING ELEMENTS

**APPROXIMATE CHARACTERISTICS.**—Specific resistivity, 106 microhms per cm<sup>3</sup>. Temperature coefficient, .000202 per degree C. (20°—200° C.). Specific gravity, 8.27. Melting point, 1400° C. Resistance compared with copper, 61.8. Tensile strength, 47 tons per square inch. Weight per cubic inch, .298 lb.

Size.	Diam.	Approx. resistance per 1000' yards. 200° C.	Approx. current capacity at			Weight per 1000 yds.	Cat. No.	Price per lb.		
			200° C.	400° C.	600° C.					
S.W.G.	Ins.	Standard ohms.	amps.	amps.	amps.	lb.		£	s.	d.
16	.064	485.25	9.6	15.5	22.6	34.60	WS 1133	0	12	0
17	.056	633.78	8.2	13.2	18.9	26.49	WS 1135	0	12	0
18	.048	862.62	6.85	10.8	15.2	19.47	WS 1137	0	12	6
19	.040	1242.24	5.45	8.4	11.5	13.52	WS 1139	0	13	0
20	.036	1533.51	4.65	7.2	9.9	10.95	WS 1141	0	13	6
21	.032	1941.06	3.66	5.64	7.85	8.65	WS 1143	0	15	0
22	.028	2534.91	3.1	4.83	6.67	6.62	WS 1145	0	16	0
23	.024	3450.6	2.6	4.05	5.59	4.87	WS 1147	0	17	0
24	.022	4106.7	2.34	3.68	5.08	4.09	WS 1149	0	18	0
25	.020	4968.0	2.08	3.31	4.56	3.38	WS 1151	0	19	0
26	.018	6133.5	1.84	2.95	4.06	2.74	WS 1153	1	1	0
27	.0164	7391.1	1.64	2.68	3.67	2.27	WS 1155	1	3	0
28	.0148	9073.8	1.47	2.42	3.26	1.85	WS 1157	1	4	0
29	.0136	10995.9	1.34	2.22	2.95	1.56	WS 1159	1	5	0
30	.0124	12926.1	1.22	2.03	2.65	1.30	WS 1161	1	6	0
31	.0116	14771.1	1.14	1.9	2.45	1.14	WS 1163	1	7	6
32	.0108	17039.7	1.06	1.75	2.26	.99	WS 1165	1	8	6
33	.0100	19875.0	.97	1.61	2.08	.84	WS 1167	1	9	9
34	.0092	23480.7	.90	1.47	1.89	.72	WS 1169	1	11	6
35	.0084	28166.4	.82	1.33	1.7	.60	WS 1171	1	14	0
36	.0076	34413.0	.75	1.19	1.53	.49	WS 1173	1	17	0
37	.0068	42978.0	.68	1.06	1.35	.39	WS 1175	2	0	0
38	.0060	55215.0	.61	.93	1.18	.30	WS 1177	2	5	0
39	.0052	73494.0	.54	.8	1.02	.23	WS 1179	2	8	0
40	.0048	86262.0	.51	.72	.93	.19	WS 1181	2	11	6

NOTE.—The current carrying capacity is expressed as the approximate current required to maintain the stated rise of temperature when the wire is straight, horizontal and free to radiate.

Small reels (non-returnable) charged at cost extra. Drums charged at cost and credited on return.

Intermediate sizes are charged at the price of the next finer size.

Prices for large quantities quoted on application.

*All prices are subject to market fluctuations.*



## “CLIMAX” RESISTANCE WIRE

**APPROXIMATE CHARACTERISTICS.**—Temperature coefficient, 0.000022 per degree C. Resistance per cm. cube, 47.2 microhms. Resistance per sq. mil. foot, 223 ohms. Resistance per circular mil. foot, 283.9 ohms. Specific gravity, 8.99.

Size.	Diam.	Resistance per 1000 yards.	Approximate current capacity per			Approx. weight per 1000 yds.	Cat. No.	Price per lb.	
			100° C.	200° C.	300° C.			s.	d.
S.W.G.	ins.	ohms.	amps.	amps.	amps.	lb.			
8	.160	33.4	33.0	52	58.4	232.4	WS <b>1205</b>	4	3
9	.144	41.1	26.0	43	50	188.2	WS <b>1207</b>	4	3
10	.128	52.2	22.6	36	41.3	148.6	WS <b>1209</b>	4	3
11	.116	63.5	19.0	30	35.3	122.0	WS <b>1211</b>	4	3
12	.104	79.1	16.6	24	29.4	98.22	WS <b>1213</b>	4	3
13	.092	101.2	12.5	20	24.0	76.85	WS <b>1215</b>	4	3
14	.080	133.7	9.4	15	19.3	58.12	WS <b>1217</b>	4	6
15	.072	165.2	7.3	12.5	16.8	47.07	WS <b>1219</b>	4	6
16	.064	209.2	6.0	10.3	14.2	37.20	WS <b>1221</b>	4	9
17	.056	273.2	5.2	8.6	11.2	28.45	WS <b>1223</b>	4	9
18	.048	371.5	4.2	7.0	9.0	20.91	WS <b>1225</b>	5	0
19	.040	535.5	3.5	5.3	6.5	14.50	WS <b>1227</b>	5	0
20	.036	661.2	3.0	4.6	5.8	11.75	WS <b>1229</b>	5	6
21	.032	837.1	2.7	4.0	5.0	9.30	WS <b>1231</b>	5	9
22	.028	1093	2.2	3.1	4.0	7.115	WS <b>1233</b>	6	0
23	.024	1487	1.7	2.5	3.2	5.231	WS <b>1235</b>	6	0
24	.022	1770	1.5	2.2	2.7	4.390	WS <b>1237</b>	6	9
25	.020	2140	1.23	2.0	2.4	3.630	WS <b>1239</b>	7	0
26	.018	2642	1.0	1.65	2.0	2.940	WS <b>1241</b>	7	6
27	.0164	3185	.8	1.45	1.8	2.438	WS <b>1243</b>	8	0
28	.0148	3913	.75	1.35	1.57	1.985	WS <b>1245</b>	8	0
29	.0136	4632	.67	1.13	1.45	1.675	WS <b>1247</b>	8	9
30	.0124	5574	.58	1.0	1.23	1.395	WS <b>1249</b>	9	0
31	.0116	6369	.50	.9	1.03	1.220	WS <b>1251</b>	9	9
32	.0108	7349	.45	.80	.94	1.055	WS <b>1253</b>	10	0
33	.0100	8570	.41	.74	.85	.9080	WS <b>1255</b>	11	0
34	.0092	10127	.36	.63	.75	.7685	WS <b>1257</b>	11	6
35	.0084	12147	.32	.55	.65	.6405	WS <b>1259</b>	12	0
36	.0076	14840	.28	.47	.55	.5246	WS <b>1261</b>	13	0
37	.0068	18534	.26	.42	.50	.4195	WS <b>1263</b>	14	6
38	.0060	23807	.18	.30	.39	.3270	WS <b>1265</b>	15	9
39	.0052	31695	.15	.25	.30	.2450	WS <b>1267</b>	17	6
40	.0048	37183	.14	.24	.27	.2090	WS <b>1269</b>	19	6

Small reels (non-returnable) charged at cost extra. Drums charged at cost and credited on return.

Intermediate sizes are charged at the price of the next finer size.

Prices for large quantities quoted on application.

*All prices are subject to market fluctuations.*

## FUSE WIRE



### TINNED COPPER

Size.	Approx. fusing current in free air.	Stocked on reels con- tain- ing.	Cat. No.	Price per lb.	Size.	Approx. fusing current in free air.	Stocked on reels con- tain- ing.	Cat. No.	Price per lb.
S.W.G.	amps.			s. d.	S.W.G.	amps.			s. d.
42	2.59	1/4 lb.	WS 1293	5 6	28	18.44	1/2 lb.	WS 1321	2 6
41	2.90	"	WS 1295	5 0	27	21.50	"	WS 1323	2 3
		"			26	24.75	"	WS 1325	2 3
40	3.41	"	WS 1297	4 6	25	29.00	"	WS 1327	2 3
39	3.82	"	WS 1299	4 6	24	33.43	"	WS 1329	2 3
38	4.76	"	WS 1301	3 6	23	38.10	"	WS 1331	2 3
37	5.74	"	WS 1303	3 6	22	48.00	"	WS 1333	2 3
36	6.79	"	WS 1305	3 0	21	58.60	"	WS 1335	2 3
35	7.89	"	WS 1307	3 0					
34	9.04	"	WS 1309	3 0	20	70	"	WS 1337	2 3
33	10.20	"	WS 1311	2 9	19	81.50	1 lb.	WS 1339	2 0
32	11.50	"	WS 1313	2 9	18	107.70	"	WS 1341	2 0
31	12.80	"	WS 1315	2 9	17	132.50	"	WS 1343	2 0
					16	165.80	"	WS 1345	2 0
30	14.15	"	WS 1317	2 6	15	198.00	"	WS 1347	2 0
29	15.50	"	WS 1319	2 6	14	232.00	"	WS 1349	2 0

Fusing currents of fuse wires used with porcelain enclosed fuse holders.

### PURE TIN

Size.	Approx. fusing current in free air.	Stocked on reels con- tain- ing.	Cat. No.	Price per lb.
S.W.G.	amps.			s. d.
36	1.09	1/4 lb.	WS 1357	24 6
34	1.45	"	WS 1359	19 4
32	1.84	"	WS 1361	14 8
30	2.27	"	WS 1363	11 4
28	2.96	1/2 lb.	WS 1365	10 0
26	3.97	"	WS 1367	8 8
24	5.36	"	WS 1369	7 4
22	7.69	"	WS 1371	7 4
20	11.21	"	WS 1373	6 8
18	17.26	1 lb.	WS 1375	6 8
16	26.58	"	WS 1377	6 8
14	37.15	"	WS 1379	6 8
12	55.00	"	WS 1381	6 8
10	75.40	"	WS 1383	6 8
8	105.50	"	WS 1385	6 8

Load current.	Approx. fusing current.	Tinned copper	Pure tin.
amps.	amps.	S.W.G. 1 strand	S.W.G. 1 strand
3	9	33	—
4	12	30	—
5	15	28	18
7.5	22.5	26	16
10	30	24	—
12.5	30	24	—
15	35	23	—
20	40	22	—
25	50	21	—
30	60	20	—
40	80	19	—
50	100	18	—
60	120	17	—
75	150	15	—
100	200	14	—
150	300	18*	—
200	400	16*	—
300	600	15*	—
400	800	13*	—
600	1200	12*	—

\* 4 Strand.

Fuse wire cannot be supplied in quantities of less than one reel.  
All prices are subject to market fluctuations.

## FUSE WIRE

### LEAD

### "ELECTROTIN" TIN-LEAD ALLOY

Size.	Approx. fusing current in free air.	Stocked on reels containing.	Cat. No.	Price per lb.	Size.	Approx. fusing current in free air.	Stocked on reels containing.	Cat. No.	Price per lb.
S.W.G.	amps.			s. d.	S.W.G.	amps.			s. d.
32	1.55	½ lb.	WS 1395	9 6	26	3.18	½ lb.	WS 1441	5 0
30	1.90	„	WS 1397	8 6	24	4.30	„	WS 1443	4 6
28	2.48	½ lb.	WS 1399	6 0	23	4.90	„	WS 1445	4 6
26	3.33	„	WS 1401	4 0	22	6.17	„	WS 1447	4 0
25	3.90	„	WS 1403	3 6	21	7.54	„	WS 1449	4 0
24	4.50	„	WS 1405	2 6	20	9.00	„	WS 1451	4 0
23	5.13	„	WS 1407	2 3	19	10.45	1 lb.	WS 1453	4 0
22	6.46	„	WS 1409	2 3	18	13.86	„	WS 1455	3 9
21	7.89	„	WS 1411	2 0	17	17.05	„	WS 1457	3 9
					16	21.34	„	WS 1459	3 6
20	9.42	„	WS 1413	2 0	15	25.46	„	WS 1461	3 6
19	10.95	1 lb.	WS 1415	2 0	14	29.82	„	WS 1463	3 6
18	14.50	„	WS 1417	1 9	13	37.80	„	WS 1465	3 6
16	22.32	„	WS 1419	1 9	12	44.30	„	WS 1467	3 6
14	31.20	„	WS 1421	1 9	11	52.20	„	WS 1469	3 6
13	38.50	„	WS 1423	1 9					
12	46.20	„	WS 1425	1 9	10	60.50	„	WS 1471	3 6
11	54.50	„	WS 1427	1 9	9	72.20	„	WS 1473	3 6
					8	84.50	„	WS 1475	3 6
10	63.20	„	WS 1429	1 9					
8	88.30	„	WS 1431	1 9					

Fuse wire cannot be supplied in quantities of less than one reel.

## ENAMEL COVERED COPPER WIRES

### WIRELESS ANTENNAE

Enamel covered wire is now used extensively for wireless aerials, and any size strand can be manufactured to suit customers' requirements. The size most usually employed is 7/22 S.W.G., details of which are given below :—

No. and size.	No. and diameter.	Weight (approx.).	Cat. No.	Description.	Price.
S.W.G.	No./Ins.	lb.			s. d.
7/22	7/.028	Per coil of 100 ft. 1.76	WS 1941	In coils of 100 ft.	4 6
		Per 1000 yards 52.80	WS 1943	In long lengths.	Prices on application.

All prices are subject to market fluctuations.

# ARMATURE AND INSTRUMENT WINDING WIRES

## SINGLE COTTON COVERED COPPER WIRE

### ORDINARY COVERING

Size.	Diameter.		Approx. resistance at 60° F. per lb.	Thick- ness of covering.	Approx. weight per 1000 yds.	Cat. No.	Price per lb.	
S.W.G.	ins.	mm.	ohms.	mils.	lb.		s.	d.
6	.192	4.877	.002476	8	338.0	WS <b>1485</b>	1	6
7	.176	4.470	.003507	8	283.0	WS <b>1487</b>	1	6
8	.160	4.064	.005135	8	235.8	WS <b>1489</b>	1	6
9	.144	3.658	.007827	7/8	191.0	WS <b>1491</b>	1	6
10	.128	3.251	.012537	7/8	151.0	WS <b>1493</b>	1	6
11	.116	2.946	.018587	7/8	124.8	WS <b>1495</b>	1	6
12	.104	2.642	.02877	7/8	99.8	WS <b>1497</b>	1	6
13	.092	2.337	.04698	7/8	76.3	WS <b>1499</b>	1	6
14	.080	2.032	.08216	7/8	59.3	WS <b>1501</b>	1	6
15	.072	1.829	.12523	7	48.15	WS <b>1503</b>	1	6
16	.064	1.626	.2006	7	38.18	WS <b>1505</b>	1	6
17	.056	1.422	.3422	7	29.3	WS <b>1507</b>	1	9
18	.048	1.219	.6340	6/7	21.6	WS <b>1509</b>	1	9
19	.040	1.016	1.3146	6/7	15.1	WS <b>1511</b>	2	3
20	.036	.9144	2.004	5/6	12.25	WS <b>1513</b>	2	3
21	.032	.8128	3.209	5/6	9.7	WS <b>1515</b>	2	3
22	.028	.7112	5.475	5/6	7.46	WS <b>1517</b>	2	6
23	.024	.6096	10.144	5	5.54	WS <b>1519</b>	3	0
24	.022	.5588	14.366	5	4.68	WS <b>1521</b>	3	0
25	.020	.5080	21.03	5	3.89	WS <b>1523</b>	3	3
26	.018	.4572	32.06	5	3.16	WS <b>1525</b>	3	3
27	.0164	.4166	46.52	5	2.65	WS <b>1527</b>	3	9
28	.0148	.3759	70.14	5	2.19	WS <b>1529</b>	3	9
29	.0136	.3454	98.37	5	1.86	WS <b>1531</b>	5	0
30	.0124	.3149	142.35	5	1.56	WS <b>1533</b>	5	3
31	.0116	.2946	185.87	5	1.35	WS <b>1535</b>	6	0
32	.0108	.2743	247.4	5	1.18	WS <b>1537</b>	6	6
33	.0100	.2540	336.5	5	1.02	WS <b>1539</b>	6	9
34	.0092	.2337	469.8	5	.833	WS <b>1541</b>	7	6
35	.0084	.2134	676.0	4	.737	WS <b>1543</b>	8	0
36	.0076	.1930	1008.7	4	.620	WS <b>1545</b>	9	0
37	.0068	.1727	1574.0	4	.504	WS <b>1547</b>	10	6
38	.0060	.1524	2597.0	4	.402	WS <b>1549</b>	11	9
39	.0052	.1321	4603.0	4	.310	WS <b>1551</b>	14	9
40	.0048	.1219	6340.0	4	.270	WS <b>1553</b>	16	6

NOTE.—The overall diameter can be calculated by adding the mils. of covering to the diameter of the bare wire.

Intermediate sizes are charged at the price of the next finer size.

Extra for Small Exact Weight Reels (non-returnable) : 1 lb. reels, **2½d.** per lb. net extra ; ½ lb. reels, **5d.** per lb. net extra ; ¼ lb. reels, **10d.** per lb. net extra.

*All prices are subject to market fluctuations.*



# ARMATURE AND INSTRUMENT WINDING WIRES

## SINGLE COTTON COVERED COPPER WIRE

### SPECIALLY FINE COVERING

Size.	Diameter.		Approx. resistance at 60° F. per lb.	Thick- ness of covering.	Approx. weight per 1000 yds.	Cat. No.	Price per lb.	
S.W.G.	ins.	mm.	ohms.	mils.	lb.		s.	d.
6	.192	4.877	.002476	6/7	338.26	WS <b>1563</b>	1	9
7	.176	4.470	.003507	6/7	283.96	WS <b>1565</b>	1	9
8	.160	4.064	.005135	6/7	235.46	WS <b>1567</b>	1	9
9	.144	3.658	.007827	6/7	190.66	WS <b>1569</b>	1	9
10	.128	3.251	.012537	6/7	150.89	WS <b>1571</b>	1	9
11	.116	2.946	.018587	6/7	123.8	WS <b>1573</b>	1	9
12	.104	2.642	.02877	6/7	99.85	WS <b>1575</b>	1	9
13	.092	2.337	.04698	6/7	76.3	WS <b>1577</b>	1	9
14	.080	2.032	.08216	6/7	59.36	WS <b>1579</b>	1	9
15	.072	1.829	.12523	5/6	48.0	WS <b>1581</b>	1	9
16	.064	1.626	.2006	5/6	37.97	WS <b>1583</b>	1	9
17	.056	1.422	.3422	5/6	29.21	WS <b>1585</b>	2	0
18	.048	1.219	.6340	5	21.49	WS <b>1587</b>	2	3
19	.040	1.016	1.3146	5	14.94	WS <b>1589</b>	2	6
20	.036	.9144	2.004	4/5	12.13	WS <b>1591</b>	2	6
21	.032	.8128	3.209	4/5	.9.62	WS <b>1593</b>	2	9
22	.028	.7112	5.475	4/5	7.40	WS <b>1595</b>	2	9
23	.024	.6096	10.144	4	5.45	WS <b>1597</b>	3	3
24	.022	.5588	14.366	4	4.60	WS <b>1599</b>	3	3
25	.020	.5080	21.03	4	3.82	WS <b>1601</b>	3	6
26	.018	.4572	32.06	4	3.10	WS <b>1603</b>	3	9
27	.0164	.4166	46.52	4	2.59	WS <b>1605</b>	4	0
28	.0148	.3759	70.14	4	2.13	WS <b>1607</b>	4	0
29	.0136	.3454	98.37	4	1.8	WS <b>1609</b>	5	3
30	.0124	.3149	142.35	4	1.51	WS <b>1611</b>	5	6
31	.0116	.2946	185.87	4	1.33	WS <b>1613</b>	6	3
32	.0108	.2743	247.4	4	1.16	WS <b>1615</b>	6	9
33	.0100	.2540	336.5	4	1.00	WS <b>1617</b>	7	6
34	.0092	.2337	469.8	4	.858	WS <b>1619</b>	8	0
35	.0084	.2134	676.0	3/3.5	.706	WS <b>1621</b>	9	0
36	.0076	.1930	1008.7	3/3.5	.585	WS <b>1623</b>	10	0
37	.0068	.1727	1574.0	3/3.5	.475	WS <b>1625</b>	11	3
38	.0060	.1524	2597.0	3/3.5	.376	WS <b>1627</b>	13	0
39	.0052	.1321	4603.0	3/3.5	.289	WS <b>1629</b>	16	0
40	.0048	.1219	6340.0	3/3.5	.250	WS <b>1631</b>	18	0

NOTE.—The overall diameter can be calculated by adding the mils. of covering to the diameter of the bare wire.

Intermediate sizes are charged at the price of the next finer size.

Extra for Small Exact Weight Reels (non-returnable) : 1 lb. reels, **2½d.** per lb. net extra ; ½ lb. reels, **5d.** per lb. net extra ; ¼ lb. reels, **10d.** per lb. net extra.

*All prices are subject to market fluctuations.*



# ARMATURE AND INSTRUMENT WINDING WIRES

## DOUBLE COTTON COVERED COPPER WIRE

### ORDINARY COVERING

Size.	Diameter.		Approx. resistance at 60° F. per lb.	Thick- ness of covering.	Approx. weight per 1000 yds.	Cat. No.	Price per lb.	
S.W.G.	ins.	mm.	ohms.	mils.	lb.		s.	d.
<b>6</b>	.192	4.877	.002476	12/14	340.5	WS <b>1641</b>	<b>1</b>	<b>9</b>
<b>7</b>	.176	4.470	.003507	12/14	286.0	WS <b>1643</b>	<b>1</b>	<b>9</b>
<b>8</b>	.160	4.064	.005135	12/14	239.0	WS <b>1645</b>	<b>1</b>	<b>9</b>
<b>9</b>	.144	3.658	.007827	12/14	192.0	WS <b>1647</b>	<b>1</b>	<b>9</b>
<b>10</b>	.128	3.251	.012537	12/14	153.8	WS <b>1649</b>	<b>1</b>	<b>9</b>
<b>11</b>	.116	2.946	.018587	12/14	125.3	WS <b>1651</b>	<b>1</b>	<b>9</b>
<b>12</b>	.104	2.642	.02877	12/14	101.2	WS <b>1653</b>	<b>1</b>	<b>9</b>
<b>13</b>	.092	2.337	.04698	12/14	77.4	WS <b>1655</b>	<b>1</b>	<b>9</b>
<b>14</b>	.080	2.032	.08216	12/14	60.5	WS <b>1657</b>	<b>1</b>	<b>9</b>
<b>15</b>	.072	1.829	.12523	10/12	49.1	WS <b>1659</b>	<b>1</b>	<b>9</b>
<b>16</b>	.064	1.626	.2006	10/12	39.1	WS <b>1661</b>	<b>1</b>	<b>9</b>
<b>17</b>	.056	1.422	.3422	10/12	30.2	WS <b>1663</b>	<b>2</b>	<b>0</b>
<b>18</b>	.048	1.219	.6340	9/11	22.3	WS <b>1665</b>	<b>2</b>	<b>3</b>
<b>19</b>	.040	1.016	1.3146	9/11	15.57	WS <b>1667</b>	<b>2</b>	<b>6</b>
<b>20</b>	.036	.9144	2.004	9/11	12.8	WS <b>1669</b>	<b>2</b>	<b>6</b>
<b>21</b>	.032	.8128	3.209	9/11	10.1	WS <b>1671</b>	<b>2</b>	<b>9</b>
<b>22</b>	.028	.7112	5.475	9/11	7.8	WS <b>1673</b>	<b>2</b>	<b>9</b>
<b>23</b>	.024	.6096	10.144	8/10	5.86	WS <b>1675</b>	<b>3</b>	<b>3</b>
<b>24</b>	.022	.5588	14.366	8/10	4.98	WS <b>1677</b>	<b>3</b>	<b>3</b>
<b>25</b>	.020	.5080	21.03	8/10	4.18	WS <b>1679</b>	<b>3</b>	<b>9</b>
<b>26</b>	.018	.4572	32.06	8/10	3.42	WS <b>1681</b>	<b>4</b>	<b>0</b>
<b>27</b>	.0164	.4166	46.52	8/10	2.89	WS <b>1683</b>	<b>4</b>	<b>6</b>
<b>28</b>	.0148	.3759	70.14	8/10	2.41	WS <b>1685</b>	<b>4</b>	<b>6</b>
<b>29</b>	.0136	.3454	98.37	8/10	2.08	WS <b>1687</b>	<b>5</b>	<b>6</b>
<b>30</b>	.0124	.3149	142.35	8/10	1.77	WS <b>1689</b>	<b>6</b>	<b>6</b>
<b>31</b>	.0116	.2946	185.87	8/10	1.50	WS <b>1691</b>	<b>6</b>	<b>9</b>
<b>32</b>	.0108	.2743	247.4	8/10	1.30	WS <b>1693</b>	<b>7</b>	<b>0</b>
<b>33</b>	.0100	.2540	336.5	8/10	1.16	WS <b>1695</b>	<b>8</b>	<b>0</b>
<b>34</b>	.0092	.2337	469.8	8/10	1.01	WS <b>1697</b>	<b>8</b>	<b>6</b>
<b>35</b>	.0084	.2134	676.0	7/9	.862	WS <b>1699</b>	<b>9</b>	<b>9</b>
<b>36</b>	.0076	.1930	1008.7	7/9	.739	WS <b>1701</b>	<b>11</b>	<b>0</b>
<b>37</b>	.0068	.1727	1574.0	7/9	.623	WS <b>1703</b>	<b>12</b>	<b>3</b>
<b>38</b>	.0060	.1524	2597.0	7/9	.516	WS <b>1705</b>	<b>13</b>	<b>6</b>
<b>39</b>	.0052	.1321	4603.0	7/9	.422	WS <b>1707</b>	<b>16</b>	<b>0</b>
<b>40</b>	.0048	.1219	6340.0	7/9	.379	WS <b>1709</b>	<b>18</b>	<b>0</b>

NOTE.—The overall diameter can be calculated by adding the mils. of covering to the diameter of the bare wire.

Intermediate sizes are charged at the price of the next finer size.

Extra for Small Exact Weight Reels (non-returnable) : 1 lb. reels, **2½d.** per lb. net extra; ½ lb. reels, **5d.** per lb. net extra; ¼ lb. reels, **10d.** per lb. net extra.

*All prices are subject to market fluctuations.*



# ARMATURE AND INSTRUMENT WINDING WIRES

## DOUBLE COTTON COVERED COPPER WIRE

### SPECIALLY FINE COVERING

Sise.	Diameter.		Approx. resistance at 60° F. per lb.	Thick- ness of covering.	Approx. weight per 1000 yds.	Cat. No.	Price per lb.	
	ins.	mm.	ohms.	mils.	lb.		s.	d.
<b>6</b>	.192	4.877	.002476	9/11	339.62	WS <b>1719</b>	<b>2</b>	<b>0</b>
<b>7</b>	.176	4.470	.003507	9/11	285.21	WS <b>1721</b>	<b>2</b>	<b>0</b>
<b>8</b>	.160	4.064	.005135	9/11	236.6	WS <b>1723</b>	<b>2</b>	<b>0</b>
<b>9</b>	.144	3.658	.007827	9/10	191.55	WS <b>1725</b>	<b>2</b>	<b>0</b>
<b>10</b>	.128	3.251	.012537	9/10	151.66	WS <b>1727</b>	<b>2</b>	<b>0</b>
<b>11</b>	.116	2.946	.018587	9/10	124.53	WS <b>1729</b>	<b>2</b>	<b>0</b>
<b>12</b>	.104	2.642	.02877	9/10	100.51	WS <b>1731</b>	<b>2</b>	<b>0</b>
<b>13</b>	.092	2.337	.04698	9/10	76.88	WS <b>1733</b>	<b>2</b>	<b>0</b>
<b>14</b>	.080	2.032	.08216	9/10	59.87	WS <b>1735</b>	<b>2</b>	<b>0</b>
<b>15</b>	.072	1.829	.12523	9/10	48.62	WS <b>1737</b>	<b>2</b>	<b>0</b>
<b>16</b>	.064	1.626	.2006	9/10	38.53	WS <b>1739</b>	<b>2</b>	<b>3</b>
<b>17</b>	.056	1.422	.3422	9/10	29.7	WS <b>1741</b>	<b>2</b>	<b>3</b>
<b>18</b>	.048	1.219	.6340	6/8	21.7	WS <b>1743</b>	<b>2</b>	<b>6</b>
<b>19</b>	.040	1.016	1.3146	6/8	15.12	WS <b>1745</b>	<b>2</b>	<b>9</b>
<b>20</b>	.036	.9144	2.004	6/7	12.29	WS <b>1747</b>	<b>2</b>	<b>9</b>
<b>21</b>	.032	.8128	3.209	6/7	9.76	WS <b>1749</b>	<b>3</b>	<b>0</b>
<b>22</b>	.028	.7112	5.475	6/7	7.53	WS <b>1751</b>	<b>3</b>	<b>0</b>
<b>23</b>	.024	.6096	10.144	6/7	5.59	WS <b>1753</b>	<b>3</b>	<b>6</b>
<b>24</b>	.022	.5588	14.366	6/7	4.73	WS <b>1755</b>	<b>3</b>	<b>9</b>
<b>25</b>	.020	.5080	21.03	6/7	3.93	WS <b>1757</b>	<b>4</b>	<b>0</b>
<b>26</b>	.018	.4572	32.06	6/7	3.21	WS <b>1759</b>	<b>4</b>	<b>3</b>
<b>27</b>	.0164	.4166	46.52	6/7	2.70	WS <b>1761</b>	<b>4</b>	<b>9</b>
<b>28</b>	.0148	.3759	70.14	6/7	2.22	WS <b>1763</b>	<b>5</b>	<b>6</b>
<b>29</b>	.0136	.3454	98.37	6/7	1.89	WS <b>1765</b>	<b>6</b>	<b>6</b>
<b>30</b>	.0124	.3149	142.35	6/7	1.59	WS <b>1767</b>	<b>6</b>	<b>9</b>
<b>31</b>	.0116	.2946	185.87	6/7	1.41	WS <b>1769</b>	<b>7</b>	<b>6</b>
<b>32</b>	.0108	.2743	247.4	6/7	1.24	WS <b>1771</b>	<b>8</b>	<b>0</b>
<b>33</b>	.0100	.2540	336.5	6/7	1.07	WS <b>1773</b>	<b>9</b>	<b>0</b>
<b>34</b>	.0092	.2337	469.8	6/7	.928	WS <b>1775</b>	<b>9</b>	<b>9</b>
<b>35</b>	.0084	.2134	676.0	5/6	.762	WS <b>1777</b>	<b>10</b>	<b>6</b>
<b>36</b>	.0076	.1930	1008.7	5/6	.637	WS <b>1779</b>	<b>12</b>	<b>0</b>
<b>37</b>	.0068	.1727	1574.0	5/6	.523	WS <b>1781</b>	<b>13</b>	<b>0</b>
<b>38</b>	.0060	.1524	2597.0	5/6	.422	WS <b>1783</b>	<b>14</b>	<b>6</b>
<b>39</b>	.0052	.1321	4603.0	5/6	.331	WS <b>1785</b>	<b>17</b>	<b>0</b>
<b>40</b>	.0048	.1219	6340.0	5/6	.290	WS <b>1787</b>	<b>19</b>	<b>0</b>

NOTE.—The overall diameter can be calculated by adding the mils. of covering to the diameter of the bare wire.

Intermediate sizes are charged at the price of the next finer size.

Extra for Small Exact Weight Reels (non-returnable) : 1 lb. reels, **2½d.** per lb. net extra ; ½ lb. reels, **5d.** per lb. net extra ; ¼ lb. reels, **10d.** per lb. net extra.

*All prices are subject to market fluctuations.*

# **ARMATURE AND INSTRUMENT WINDING WIRES**

## **SINGLE SILK COVERED COPPER WIRE**

Size.	Diameter.		Approx. resistance at 60° F. per lb.	Thick- ness of covering.	Approx. weight per 1000 yds.	Cat. No.	Price per lb.
S.W.G.	ins.	mm.	ohms.	mils.	lb.		s. d.
<b>16</b>	.064	1.626	.2006	3	37.46	WS <b>1797</b>	<b>2 9</b>
<b>17</b>	.056	1.422	.3422	3	28.75	WS <b>1799</b>	<b>3 0</b>
<b>18</b>	.048	1.219	.6340	2	21.14	WS <b>1801</b>	<b>3 3</b>
<b>19</b>	.040	1.016	1.3146	2	14.66	WS <b>1803</b>	<b>3 6</b>
<b>20</b>	.036	.9144	2.004	2	11.91	WS <b>1805</b>	<b>3 6</b>
<b>21</b>	.032	.8128	3.209	2	9.41	WS <b>1807</b>	<b>3 9</b>
<b>22</b>	.028	.7112	5.475	2	7.24	WS <b>1809</b>	<b>4 0</b>
<b>23</b>	.024	.6096	10.144	2	5.32	WS <b>1811</b>	<b>4 3</b>
<b>24</b>	.022	.5588	14.366	1.5	4.47	WS <b>1813</b>	<b>4 6</b>
<b>25</b>	.020	.5080	21.03	1.5	3.69	WS <b>1815</b>	<b>4 9</b>
<b>26</b>	.018	.4572	32.06	1.3	2.99	WS <b>1817</b>	<b>4 9</b>
<b>27</b>	.0164	.4166	46.52	1.3	2.49	WS <b>1819</b>	<b>5 0</b>
<b>28</b>	.0148	.3759	70.14	1.3	2.03	WS <b>1821</b>	<b>5 0</b>
<b>29</b>	.0136	.3454	98.37	1.3	1.71	WS <b>1823</b>	<b>5 6</b>
<b>30</b>	.0124	.3149	142.35	1.3	1.43	WS <b>1825</b>	<b>5 9</b>
<b>31</b>	.0116	.2946	185.87	1.3	1.24	WS <b>1827</b>	<b>6 6</b>
<b>32</b>	.0108	.2743	247.4	1.3	1.08	WS <b>1829</b>	<b>7 0</b>
<b>33</b>	.0100	.2540	336.5	1.3	.033	WS <b>1831</b>	<b>7 9</b>
<b>34</b>	.0092	.2337	469.8	1.3	.792	WS <b>1833</b>	<b>8 3</b>
<b>35</b>	.0084	.2134	676.0	1.3	.663	WS <b>1835</b>	<b>9 3</b>
<b>36</b>	.0076	.1930	1008.7	1.3	.545	WS <b>1837</b>	<b>10 6</b>
<b>37</b>	.0068	.1727	1574	1.3	.439	WS <b>1839</b>	<b>11 6</b>
<b>38</b>	.0060	.1524	2597	1.3	.344	WS <b>1841</b>	<b>13 6</b>
<b>39</b>	.0052	.1321	4603	1.3	.260	WS <b>1843</b>	<b>16 6</b>
<b>40</b>	.0048	.1219	6340	1.3	.223	WS <b>1845</b>	<b>18 6</b>
<b>41</b>	.0044	.1118	8979	1.2	.189	WS <b>1847</b>	<b>19 0</b>
<b>42</b>	.0040	.1016	13146	1.2	.158	WS <b>1849</b>	<b>20 0</b>
<b>43</b>	.0036	.0914	20040	1.2	.129	WS <b>1851</b>	<b>30 0</b>
<b>44</b>	.0032	.0813	32090	1.2	.104	WS <b>1853</b>	<b>37 0</b>
<b>45</b>	.0028	.0711	54750	1.2	.081	WS <b>1855</b>	<b>46 0</b>
<b>46</b>	.0024	.0610	101440	1.2	.061	WS <b>1857</b>	<b>60 0</b>
<b>47</b>	.0020	.0508	210300	1.2	.044	WS <b>1859</b>	<b>92 6</b>

NOTE.—The overall diameter can be calculated by adding the mils. of covering to the diameter of the bare wire.

Intermediate sizes are charged at the price of the next finer size.

Extra for Small Exact Weight Reels (non-returnable) : 1 lb. reels, **2d.** per lb. extra ;  
 $\frac{1}{2}$  lb. reels, **4d.** per lb. extra ;  $\frac{1}{4}$  lb. reels, **8d.** per lb. extra.

*All prices are subject to market fluctuations.*



# ARMATURE AND INSTRUMENT WINDING WIRES

## DOUBLE SILK COVERED COPPER WIRE

Size.	Diameter.		Approx. resistance at 60° F. per lb.	Thick- ness of covering.	Approx. weight per 1000 yds.	Cat. No.	Price per lb.	
S.W.G.	ins.	mm.	ohms.	mils.	lb.		s.	d.
<b>16</b>	.064	1.626	.2006	4	37.66	WS <b>1869</b>	<b>3</b>	<b>3</b>
<b>17</b>	.056	1.422	.3422	4	28.93	WS <b>1871</b>	<b>3</b>	<b>6</b>
<b>18</b>	.048	1.219	.6340	3	21.30	WS <b>1873</b>	<b>3</b>	<b>9</b>
<b>19</b>	.040	1.016	1.3146	3	14.78	WS <b>1875</b>	<b>4</b>	<b>0</b>
<b>20</b>	.036	.9144	2.004	3	12.03	WS <b>1877</b>	<b>4</b>	<b>6</b>
<b>21</b>	.032	.8128	3.209	3	9.51	WS <b>1879</b>	<b>5</b>	<b>0</b>
<b>22</b>	.028	.7112	5.475	3	7.30	WS <b>1881</b>	<b>5</b>	<b>6</b>
<b>23</b>	.024	.6096	10.144	3	5.39	WS <b>1883</b>	<b>5</b>	<b>9</b>
<b>24</b>	.022	.5588	14.366	3	4.54	WS <b>1885</b>	<b>6</b>	<b>0</b>
<b>25</b>	.020	.5080	21.03	3	3.76	WS <b>1887</b>	<b>6</b>	<b>3</b>
<b>26</b>	.018	.4572	32.06	2.5	3.05	WS <b>1889</b>	<b>6</b>	<b>6</b>
<b>27</b>	.0164	.4166	46.52	2.5	2.54	WS <b>1891</b>	<b>6</b>	<b>9</b>
<b>28</b>	.0148	.3759	70.14	2.5	2.07	WS <b>1893</b>	<b>6</b>	<b>9</b>
<b>29</b>	.0136	.3454	98.37	2.5	1.75	WS <b>1895</b>	<b>7</b>	<b>0</b>
<b>30</b>	.0124	.3149	142.35	2.5	1.46	WS <b>1897</b>	<b>7</b>	<b>0</b>
<b>31</b>	.0116	.2946	185.87	2.5	1.28	WS <b>1899</b>	<b>7</b>	<b>9</b>
<b>32</b>	.0108	.2743	247.4	2.5	1.11	WS <b>1901</b>	<b>8</b>	<b>6</b>
<b>33</b>	.0100	.2540	336.5	2.5	.958	WS <b>1903</b>	<b>9</b>	<b>6</b>
<b>34</b>	.0092	.2337	469.8	2.5	.814	WS <b>1905</b>	<b>10</b>	<b>3</b>
<b>35</b>	.0084	.2134	676.0	2.5	.684	WS <b>1907</b>	<b>11</b>	<b>0</b>
<b>36</b>	.0076	.1930	1008.7	2.5	.566	WS <b>1909</b>	<b>12</b>	<b>6</b>
<b>37</b>	.0068	.1727	1574	2.5	.458	WS <b>1911</b>	<b>13</b>	<b>6</b>
<b>38</b>	.0060	.1524	2597	2.5	.362	WS <b>1913</b>	<b>15</b>	<b>6</b>
<b>39</b>	.0052	.1321	4603	2.5	.278	WS <b>1915</b>	<b>20</b>	<b>0</b>
<b>40</b>	.0048	.1219	6340	2.5	.241	WS <b>1917</b>	<b>21</b>	<b>0</b>
<b>41</b>	.0044	.1118	8979	2.2	.205	WS <b>1919</b>	<b>23</b>	<b>6</b>
<b>42</b>	.0040	.1016	13146	2.2	.173	WS <b>1921</b>	<b>26</b>	<b>6</b>
<b>43</b>	.0036	.0914	20040	2.2	.144	WS <b>1923</b>	<b>37</b>	<b>6</b>
<b>44</b>	.0032	.0813	32090	2.2	.118	WS <b>1925</b>	<b>43</b>	<b>6</b>
<b>45</b>	.0028	.0711	54750	2.2	.095	WS <b>1927</b>	<b>53</b>	<b>6</b>
<b>46</b>	.0024	.0610	101440	2.2	.075	WS <b>1929</b>	<b>66</b>	<b>6</b>
<b>47</b>	.0020	.0508	210300	2.2	.057	WS <b>1931</b>	<b>100</b>	<b>0</b>

NOTE.—The overall diameter can be calculated by adding the mils. of covering to the diameter of the bare wire.

Intermediate sizes are charged at the price of the next finer size.

Extra for Small Exact Weight Reels (non-returnable) : 1 lb. reels, **2d.** per lb. extra ;  
 $\frac{1}{2}$  lb. reels, **4d.** per lb. extra ;  $\frac{1}{4}$  lb. reels, **8d.** per lb. extra.

*All prices are subject to market fluctuations.*

# ARMATURE AND INSTRUMENT WINDING WIRES

## BARE ENAMELLED COPPER WIRE

Size.	Diameter.		Approx. resistance at 60° F. per lb.	Thick- ness of covering.	Approx. weight per 1000 yds.	Cat. No.	Price per lb.	
S.W.G.	ins.	mm.	ohms.	mils.	lb.		s.	d.
12	.104	2.642	.02877	4	99.00	WS <b>1953</b>	2	0
13	.092	2.337	.04698	4	77.80	WS <b>1955</b>	2	0
14	.080	2.032	.08216	4	58.60	WS <b>1957</b>	2	3
15	.072	1.829	.12523	3.5	47.60	WS <b>1959</b>	2	3
16	.064	1.626	.2006	3.5	37.70	WS <b>1961</b>	2	3
17	.056	1.422	.3422	3	28.70	WS <b>1963</b>	2	3
18	.048	1.219	.6340	2.7	21.20	WS <b>1965</b>	2	3
19	.040	1.016	1.3146	2.7	14.70	WS <b>1967</b>	2	6
20	.036	.9144	2.004	2.7	11.90	WS <b>1969</b>	2	6
21	.032	.8128	3.209	2.5	9.42	WS <b>1971</b>	2	6
22	.028	.7112	5.475	2.5	7.19	WS <b>1973</b>	2	9
23	.024	.6096	10.144	2.3	5.34	WS <b>1975</b>	2	9
24	.022	.5588	14.366	2.3	4.50	WS <b>1977</b>	2	9
25	.020	.5080	21.03	1.8	3.71	WS <b>1979</b>	3	0
26	.018	.4572	32.06	1.8	3.01	WS <b>1981</b>	3	0
27	.0164	.4166	46.52	1.6	2.49	WS <b>1983</b>	3	0
28	.0148	.3759	70.14	1.6	2.09	WS <b>1985</b>	3	3
29	.0136	.3454	98.37	1.6	1.72	WS <b>1987</b>	3	6
30	.0124	.3149	142.35	1.2	1.43	WS <b>1989</b>	4	0
31	.0116	.2946	185.87	1.2	1.25	WS <b>1991</b>	4	3
32	.0108	.2743	247.4	1.2	1.08	WS <b>1993</b>	4	6
33	.0100	.2540	336.5	1.2	.933	WS <b>1995</b>	4	9
34	.0092	.2337	469.8	1.0	.788	WS <b>1997</b>	5	0
35	.0084	.2134	676.0	1.0	.658	WS <b>1999</b>	5	6
36	.0076	.1930	1008.7	1.0	.540	WS <b>2001</b>	6	0
37	.0068	.1727	1574	1.0	.434	WS <b>2003</b>	6	6
38	.0060	.1524	2597	1.0	.340	WS <b>2005</b>	7	0
39	.0052	.1321	4603	.8	.254	WS <b>2007</b>	8	0
40	.0048	.1219	6340	.7	.217	WS <b>2009</b>	8	6
41	.0044	.1118	8979	.6	.181	WS <b>2011</b>	9	6
42	.0040	.1016	13146	.6	.150	WS <b>2013</b>	12	0
43	.0036	.0914	20040	.5	.121	WS <b>2015</b>	21	6
44	.0032	.0813	32090	.5	.096	WS <b>2017</b>	28	0
45	.0028	.0711	54750	.5	.074	WS <b>2019</b>	34	0
46	.0024	.0610	101440	.4	.054	WS <b>2021</b>	46	0
47	.0020	.0508	210300	.3	.037	WS <b>2023</b>	75	0

NOTE.—The overall diameter can be calculated by adding the mils. of covering to the diameter of the bare wire.

Intermediate sizes are charged at the price of the next finer size.

Small reels (non-returnable) charged at cost extra.

*All prices are subject to market fluctuations.*

**S.E.C.**

# ARMATURE AND INSTRUMENT WINDING WIRES

## ENAMELLED AND SINGLE COTTON COVERED COPPER WIRE ORDINARY COVERING

Size.	Diameter.		Approx. resistance at 60° F. per lb.	Thick- ness of covering.	Approx. weight per 1000 yds.	Cat. No.	Price per lb.	
	ins.	mm.					s.	d.
<b>S. W. G.</b>			<b>ohms.</b>	<b>mils.</b>	<b>lb.</b>			
<b>12</b>	.104	2.642	.02877	10/11	100.30	WS <b>2033</b>	<b>2</b>	<b>3</b>
<b>13</b>	.092	2.337	.04698	10/11	78.90	WS <b>2035</b>	<b>2</b>	<b>3</b>
<b>14</b>	.080	2.032	.08216	10/11	59.63	WS <b>2037</b>	<b>2</b>	<b>6</b>
<b>15</b>	.072	1.829	.12523	10/11	48.53	WS <b>2039</b>	<b>2</b>	<b>6</b>
<b>16</b>	.064	1.626	.2006	9/10	38.52	WS <b>2041</b>	<b>2</b>	<b>6</b>
<b>17</b>	.056	1.422	.3422	9/10	29.43	WS <b>2043</b>	<b>2</b>	<b>6</b>
<b>18</b>	.048	1.219	.6340	9/10	21.82	WS <b>2045</b>	<b>2</b>	<b>9</b>
<b>19</b>	.040	1.016	1.3146	9/10	15.21	WS <b>2047</b>	<b>3</b>	<b>0</b>
<b>20</b>	.036	.9144	2.004	9/10	12.36	WS <b>2049</b>	<b>3</b>	<b>0</b>
<b>21</b>	.032	.8128	3.209	9/10	9.80	WS <b>2051</b>	<b>3</b>	<b>3</b>
<b>22</b>	.028	.7112	5.475	7.5	7.51	WS <b>2053</b>	<b>3</b>	<b>6</b>
<b>23</b>	.024	.6096	10.144	7.5	5.63	WS <b>2055</b>	<b>4</b>	<b>0</b>
<b>24</b>	.022	.5588	14.366	7	4.77	WS <b>2057</b>	<b>4</b>	<b>3</b>
<b>25</b>	.020	.5080	21.03	7	3.94	WS <b>2059</b>	<b>4</b>	<b>6</b>
<b>26</b>	.018	.4572	32.06	6.5	3.23	WS <b>2061</b>	<b>5</b>	<b>0</b>
<b>27</b>	.0164	.4166	46.52	6.5	2.69	WS <b>2063</b>	<b>5</b>	<b>6</b>
<b>28</b>	.0148	.3759	70.14	6.5	2.28	WS <b>2065</b>	<b>6</b>	<b>0</b>
<b>29</b>	.0136	.3454	98.37	6.2	1.90	WS <b>2067</b>	<b>6</b>	<b>6</b>
<b>30</b>	.0124	.3149	142.35	6.2	1.59	WS <b>2069</b>	<b>7</b>	<b>3</b>
<b>31</b>	.0116	.2946	185.87	6.2	1.37	WS <b>2071</b>	<b>8</b>	<b>0</b>
<b>32</b>	.0108	.2743	247.4	6.2	1.19	WS <b>2073</b>	<b>9</b>	<b>0</b>
<b>33</b>	.0100	.2540	336.5	6	1.04	WS <b>2075</b>	<b>10</b>	<b>0</b>
<b>34</b>	.0092	.2337	469.8	5	.891	WS <b>2077</b>	<b>11</b>	<b>0</b>
<b>35</b>	.0084	.2134	676.0	5	.752	WS <b>2079</b>	<b>12</b>	<b>0</b>
<b>36</b>	.0076	.1930	1008.7	5	.628	WS <b>2081</b>	<b>14</b>	<b>0</b>

**SPECIALLY FINE COVERING**

<b>12</b>	.104	2.642	.02877	9/10	99.90	WS <b>2091</b>	<b>2</b>	<b>6</b>
<b>13</b>	.092	2.337	.04698	9/10	78.60	WS <b>2093</b>	<b>2</b>	<b>6</b>
<b>14</b>	.080	2.032	.08216	9/10	59.30	WS <b>2095</b>	<b>2</b>	<b>9</b>
<b>15</b>	.072	1.829	.12523	8/9	48.20	WS <b>2097</b>	<b>2</b>	<b>9</b>
<b>16</b>	.064	1.626	.2006	8/9	38.25	WS <b>2099</b>	<b>2</b>	<b>9</b>
<b>17</b>	.056	1.422	.3422	8/9	29.20	WS <b>2101</b>	<b>2</b>	<b>9</b>
<b>18</b>	.048	1.219	.6340	8	21.60	WS <b>2103</b>	<b>3</b>	<b>0</b>
<b>19</b>	.040	1.016	1.3146	8	15.00	WS <b>2105</b>	<b>3</b>	<b>3</b>
<b>20</b>	.036	.9144	2.004	7	12.20	WS <b>2107</b>	<b>3</b>	<b>3</b>
<b>21</b>	.032	.8128	3.209	6.5	9.65	WS <b>2109</b>	<b>3</b>	<b>6</b>
<b>22</b>	.028	.7112	5.475	6.5	7.39	WS <b>2111</b>	<b>3</b>	<b>9</b>
<b>23</b>	.024	.6096	10.144	6.5	5.52	WS <b>2113</b>	<b>4</b>	<b>3</b>
<b>24</b>	.022	.5588	14.366	6.5	4.67	WS <b>2115</b>	<b>4</b>	<b>6</b>
<b>25</b>	.020	.5080	21.03	6	3.85	WS <b>2117</b>	<b>4</b>	<b>9</b>
<b>26</b>	.018	.4572	32.06	6	3.14	WS <b>2119</b>	<b>5</b>	<b>3</b>
<b>27</b>	.0164	.4166	46.52	5.5	2.72	WS <b>2121</b>	<b>5</b>	<b>9</b>
<b>28</b>	.0148	.3759	70.14	5.5	2.21	WS <b>2123</b>	<b>6</b>	<b>3</b>
<b>29</b>	.0136	.3454	98.37	5.5	1.84	WS <b>2125</b>	<b>6</b>	<b>9</b>
<b>30</b>	.0124	.3149	142.35	5.2	1.54	WS <b>2127</b>	<b>7</b>	<b>6</b>
<b>31</b>	.0116	.2946	185.87	5.2	1.34	WS <b>2129</b>	<b>9</b>	<b>0</b>
<b>32</b>	.0108	.2743	247.4	5.2	1.16	WS <b>2131</b>	<b>10</b>	<b>0</b>
<b>33</b>	.0100	.2540	336.5	5.2	1.01	WS <b>2133</b>	<b>10</b>	<b>6</b>
<b>34</b>	.0092	.2337	469.8	5	.862	WS <b>2135</b>	<b>12</b>	<b>0</b>
<b>35</b>	.0084	.2134	676.0	4.5	.726	WS <b>2137</b>	<b>13</b>	<b>0</b>
<b>36</b>	.0076	.1930	1008.7	4.5	.605	WS <b>2139</b>	<b>15</b>	<b>0</b>

*All prices are subject to market fluctuations.*

**ARMATURE AND INSTRUMENT  
WINDING WIRES  
ENAMELLED AND DOUBLE COTTON COVERED  
COPPER WIRE  
ORDINARY COVERING**

Size.	Diameter.		Approx. resistance at 60° F. per lb.	Thick- ness of covering.	Approx. weight per 1000 yds.	Cat. No.	Price per lb.	
S.W.G.	ins.	mm.	ohms.	mils.	lb.		s.	d.
12	.104	2.642	.02877	15/16	101.70	WS 2149	2	6
13	.092	2.337	.04698	15/16	80.10	WS 2151	2	6
14	.080	2.032	.08216	15/16	60.70	WS 2153	2	9
15	.072	1.829	.12523	15/16	49.50	WS 2155	2	9
16	.064	1.626	.2006	15/16	39.34	WS 2157	2	9
17	.056	1.422	.3422	15	30.22	WS 2159	2	9
18	.048	1.219	.6340	13/14	22.48	WS 2161	3	0
19	.040	1.016	1.3146	13/14	15.76	WS 2163	3	3
20	.036	.9144	2.004	13/14	12.87	WS 2165	3	3
21	.032	.8128	3.209	13/14	10.18	WS 2167	3	6
22	.028	.7112	5.475	13/14	7.85	WS 2169	3	9
23	.024	.6096	10.144	12.5	5.96	WS 2171	4	3
24	.022	.5588	14.366	12.5	5.08	WS 2173	4	6
25	.020	.5080	21.03	12	4.27	WS 2175	5	0
26	.018	.4572	32.06	12	3.48	WS 2177	5	6
27	.0164	.4166	46.52	11.5	2.93	WS 2179	6	0
28	.0148	.3759	70.14	11.5	2.50	WS 2181	6	6
29	.0136	.3454	98.37	11.5	2.11	WS 2183	7	3
30	.0124	.3149	142.35	11.2	1.80	WS 2185	8	0
31	.0116	.2946	185.87	11.2	1.52	WS 2187	9	3
32	.0108	.2743	247.4	11.2	1.34	WS 2189	10	3
33	.0100	.2540	336.5	11.2	1.18	WS 2191	11	0
34	.0092	.2337	469.8	11	1.03	WS 2193	12	3
35	.0084	.2134	676.0	9	.878	WS 2195	14	0
36	.0076	.1930	1008.7	9	.752	WS 2197	16	0

**SPECIALLY FINE COVERING**

12	.104	2.642	.02877	14	101.20	WS 2207	2	9
13	.092	2.337	.04698	14	79.70	WS 2209	2	9
14	.080	2.032	.08216	14	60.40	WS 2211	3	0
15	.072	1.829	.12523	13/14	49.30	WS 2213	3	0
16	.064	1.626	.2006	13/14	39.00	WS 2215	3	0
17	.056	1.422	.3422	13	29.90	WS 2217	3	0
18	.048	1.219	.6340	11	22.20	WS 2219	3	3
19	.040	1.016	1.3146	11	15.50	WS 2221	3	6
20	.036	.9144	2.004	10	12.60	WS 2223	3	6
21	.032	.8128	3.209	10	9.95	WS 2225	3	9
22	.028	.7112	5.475	9.5	7.64	WS 2227	4	0
23	.024	.6096	10.144	9.5	5.75	WS 2229	4	6
24	.022	.5588	14.366	9.5	4.88	WS 2231	4	9
25	.020	.5080	21.03	9	4.06	WS 2233	5	3
26	.018	.4572	32.06	8	3.31	WS 2235	5	9
27	.0164	.4166	46.52	7.5	2.77	WS 2237	6	6
28	.0148	.3759	70.14	7.5	2.35	WS 2239	7	0
29	.0136	.3454	98.37	7.5	1.97	WS 2241	8	0
30	.0124	.3149	142.35	7.2	1.66	WS 2243	9	0
31	.0116	.2946	185.87	7.2	1.42	WS 2245	10	0
32	.0108	.2743	247.4	7.2	1.24	WS 2247	11	3
33	.0100	.2540	336.5	7.2	1.09	WS 2249	12	0
34	.0092	.2337	469.8	7	.933	WS 2251	13	6
35	.0084	.2134	676.0	7	.791	WS 2253	15	0
36	.0076	.1930	1008.7	7	.668	WS 2255	17	0

*All prices are subject to market fluctuations.*



# **ARMATURE AND INSTRUMENT WINDING WIRES**

## **ENAMELLED AND SINGLE SILK COVERED COPPER WIRE**

Size.	Diameter.		Approx. resistance at 60° F. per lb.	Thick- ness of covering.	Approx. weight per 1000 yds.	Cat. No.	Price per lb.	
S. W. G.	ins.	mm.	ohms.	mils.	lb.		s.	d.
<b>16</b>	.064	1.626	.2006	6	37.92	WS <b>2265</b>	<b>4</b>	<b>0</b>
<b>17</b>	.056	1.422	.3422	5.5	28.89	WS <b>2267</b>	<b>4</b>	<b>3</b>
<b>18</b>	.048	1.219	.6340	4.7	21.36	WS <b>2269</b>	<b>4</b>	<b>6</b>
<b>19</b>	.040	1.016	1.3146	4.7	14.84	WS <b>2271</b>	<b>4</b>	<b>9</b>
<b>20</b>	.036	.9144	2.004	4.7	12.02	WS <b>2273</b>	<b>5</b>	<b>0</b>
<b>21</b>	.032	.8128	3.209	4.5	9.52	WS <b>2275</b>	<b>5</b>	<b>6</b>
<b>22</b>	.028	.7112	5.475	4.5	7.29	WS <b>2277</b>	<b>5</b>	<b>6</b>
<b>23</b>	.024	.6096	10.144	4.3	5.42	WS <b>2279</b>	<b>5</b>	<b>9</b>
<b>24</b>	.022	.5588	14.366	3.8	4.57	WS <b>2281</b>	<b>6</b>	<b>0</b>
<b>25</b>	.020	.5080	21.03	3.3	3.76	WS <b>2283</b>	<b>6</b>	<b>6</b>
<b>26</b>	.018	.4572	32.06	3	3.06	WS <b>2285</b>	<b>6</b>	<b>6</b>
<b>27</b>	.0164	.4166	46.52	2.8	2.54	WS <b>2287</b>	<b>6</b>	<b>9</b>
<b>28</b>	.0148	.3759	70.14	2.8	2.13	WS <b>2289</b>	<b>8</b>	<b>0</b>
<b>29</b>	.0136	.3454	98.37	2.8	1.75	WS <b>2291</b>	<b>8</b>	<b>6</b>
<b>30</b>	.0124	.3149	142.35	2.5	1.46	WS <b>2293</b>	<b>9</b>	<b>3</b>
<b>31</b>	.0116	.2946	185.87	2.5	1.27	WS <b>2295</b>	<b>10</b>	<b>6</b>
<b>32</b>	.0108	.2743	247.4	2.5	1.10	WS <b>2297</b>	<b>11</b>	<b>3</b>
<b>33</b>	.0100	.2540	336.5	2.5	.959	WS <b>2299</b>	<b>12</b>	<b>0</b>
<b>34</b>	.0092	.2337	469.8	2.2	.812	WS <b>2301</b>	<b>14</b>	<b>0</b>
<b>35</b>	.0084	.2134	676.0	2.2	.680	WS <b>2303</b>	<b>15</b>	<b>0</b>
<b>36</b>	.0076	.1930	1008.7	2.2	.560	WS <b>2305</b>	<b>17</b>	<b>0</b>
<b>37</b>	.0068	.1727	1574	2.2	.453	WS <b>2307</b>	<b>20</b>	<b>0</b>
<b>38</b>	.0060	.1524	2597	2	.356	WS <b>2309</b>	<b>24</b>	<b>0</b>
<b>39</b>	.0052	.1321	4603	2	.270	WS <b>2311</b>	<b>29</b>	<b>0</b>
<b>40</b>	.0048	.1219	6340	2	.232	WS <b>2313</b>	<b>33</b>	<b>0</b>
<b>41</b>	.0044	.1118	8979	2	.196	WS <b>2315</b>	<b>38</b>	<b>0</b>
<b>42</b>	.0040	.1016	13146	2	.164	WS <b>2317</b>	<b>46</b>	<b>0</b>
<b>43</b>	.0036	.0914	20040	1.8	.134	WS <b>2319</b>	<b>54</b>	<b>0</b>
<b>44</b>	.0032	.0813	32090	1.8	.108	WS <b>2321</b>	<b>66</b>	<b>0</b>
<b>45</b>	.0028	.0711	54750	1.8	.085	WS <b>2323</b>	<b>82</b>	<b>0</b>
<b>46</b>	.0024	.0610	101440	1.7	.064	WS <b>2325</b>	<b>114</b>	<b>0</b>
<b>47</b>	.0020	.0508	210300	1.6	.046	WS <b>2327</b>	<b>160</b>	<b>0</b>

NOTE.—The overall diameter can be calculated by adding the mils. of covering to the diameter of the bare wire.

Intermediate sizes are charged at the price of the next finer size.

Small reels (non-returnable) charged at cost extra.

*All prices are subject to market fluctuations.*



# ARMATURE AND INSTRUMENT WINDING WIRES

## ENAMELLED AND DOUBLE SILK COVERED COPPER WIRE

Size.	Diameter.		Approx. resistance at 60° F. per lb.	Thick- ness of covering.	Approx. weight per 1000 yds.	Cat. No.	Price per lb.
S.W.G.	ins.	mm.	ohms.	mils.	lb.		s. d.
<b>16</b>	.064	1.626	.2006	7.5	38.14	WS <b>2337</b>	<b>5 0</b>
<b>17</b>	.056	1.422	.3422	7	29.09	WS <b>2339</b>	<b>5 3</b>
<b>18</b>	.048	1.219	.6340	5.8	21.53	WS <b>2341</b>	<b>5 6</b>
<b>19</b>	.040	1.016	1.3146	5.8	14.98	WS <b>2343</b>	<b>5 6</b>
<b>20</b>	.036	.9144	2.004	5.8	12.15	WS <b>2345</b>	<b>6 6</b>
<b>21</b>	.032	.8128	3.209	5.5	9.63	WS <b>2347</b>	<b>7 0</b>
<b>22</b>	.028	.7112	5.475	5.5	7.37	WS <b>2349</b>	<b>7 3</b>
<b>23</b>	.024	.6096	10.144	5.3	5.49	WS <b>2351</b>	<b>7 6</b>
<b>24</b>	.022	.5588	14.366	5.3	4.64	WS <b>2353</b>	<b>8 0</b>
<b>25</b>	.020	.5080	21.03	4.5	3.83	WS <b>2355</b>	<b>8 0</b>
<b>26</b>	.018	.4572	32.06	4.3	3.12	WS <b>2357</b>	<b>9 3</b>
<b>27</b>	.0164	.4166	46.52	4	2.59	WS <b>2359</b>	<b>10 0</b>
<b>28</b>	.0148	.3759	70.14	4	2.18	WS <b>2361</b>	<b>10 6</b>
<b>29</b>	.0136	.3454	98.37	4	1.79	WS <b>2363</b>	<b>11 6</b>
<b>30</b>	.0124	.3149	142.35	3.7	1.50	WS <b>2365</b>	<b>12 6</b>
<b>31</b>	.0116	.2946	185.87	3.7	1.31	WS <b>2367</b>	<b>14 0</b>
<b>32</b>	.0108	.2743	247.4	3.7	1.13	WS <b>2369</b>	<b>16 0</b>
<b>33</b>	.0100	.2540	336.5	3.7	.986	WS <b>2371</b>	<b>17 6</b>
<b>34</b>	.0092	.2337	469.8	3.5	.837	WS <b>2373</b>	<b>18 6</b>
<b>35</b>	.0084	.2134	676.0	3.5	.703	WS <b>2375</b>	<b>20 0</b>
<b>36</b>	.0076	.1930	1008.7	3.5	.583	WS <b>2377</b>	<b>23 0</b>
<b>37</b>	.0068	.1727	1574	3.5	.474	WS <b>2379</b>	<b>26 0</b>
<b>38</b>	.0060	.1524	2597	3.5	.378	WS <b>2381</b>	<b>30 0</b>
<b>39</b>	.0052	.1321	4603	3.3	.289	WS <b>2383</b>	<b>35 0</b>
<b>40</b>	.0048	.1219	6340	3.2	.257	WS <b>2385</b>	<b>42 0</b>
<b>41</b>	.0044	.1118	8979	2.8	.213	WS <b>2387</b>	<b>49 0</b>
<b>42</b>	.0040	.1016	13146	2.8	.181	WS <b>2389</b>	<b>55 0</b>
<b>43</b>	.0036	.0914	20040	2.7	.151	WS <b>2391</b>	<b>65 0</b>
<b>44</b>	.0032	.0813	32090	2.7	.125	WS <b>2393</b>	<b>80 0</b>
<b>45</b>	.0028	.0711	54750	2.7	.101	WS <b>2395</b>	<b>96 0</b>
<b>46</b>	.0024	.0610	101440	2.6	.079	WS <b>2397</b>	<b>126 0</b>
<b>47</b>	.0020	.0508	210300	2.5	.061	WS <b>2399</b>	<b>172 0</b>

NOTE.—The overall diameter can be calculated by adding the mils. of covering to the diameter of the bare wire.

Intermediate sizes are charged at the price of the next finer size.

Small reels (non-returnable) charged at cost extra.

*All prices are subject to market fluctuations.*



## ARMATURE BINDING TAPES AND SLEEVING

G.E.C. linen or cotton tapes are made specially for the electrical trade and are produced so as to combine the highest tensile strength with maximum absorbent qualities. These tapes are not affected by temperatures up to approx. 250° F.

### WHITE INDIA COTTON TAPE

Woven from yarn made from long staple cotton with unravelling selvedge. Suitable for building armatures, field coils, etc.

Supplied in 72-yard coils

Width.	Approx. weight per gross yards.	Cat. No.	Price per gross yards.	
ins.	oz.		s.	d.
$\frac{1}{2}$	7 $\frac{1}{2}$	WS 2409	2	9
$\frac{3}{4}$	9 $\frac{1}{2}$	WS 2411	3	0
$\frac{7}{8}$	11	WS 2413	3	6
1	15	WS 2415	4	0

### FINE EGYPTIAN COTTON TAPE

Made from fine grey Egyptian cotton yarn of good strength, with unravelling selvedge. Suitable for building armatures and field coils where a fine tape is necessary.

Supplied in 72-yard coils

Width.	Approx. weight per gross yards.	Cat. No.	Price per gross yards.	
ins.	oz.		s.	d.
$\frac{1}{2}$	6	WS 2425	3	0
$\frac{3}{4}$	7 $\frac{1}{2}$	WS 2427	3	6
$\frac{7}{8}$	8 $\frac{1}{2}$	WS 2429	4	0
1	12	WS 2431	5	0

### LINEN TAPE

This tape (linen warp with cotton weft) is specially recommended where a high tensile strength is necessary. It is highly absorbent and most suitable for stator coils, etc.

Supplied in 72-yard coils

Width.	Approx. weight per gross yards.	Cat. No.	Price per gross yards.	
ins.	oz.		s.	d.
$\frac{1}{2}$	12	WS 2441	7	0
$\frac{3}{4}$	15	WS 2443	8	0
$\frac{7}{8}$	18	WS 2445	9	6
1	22	WS 2447	11	6

### WHITE OR GREEN PURE SILK TAPE

Fine woven silk is recommended where a very fine tape is required.

Supplied in lengths of 36 yards

Width.	Approx. weight per gross yards.	Cat. No.	Price per gross yards.		
ins.	oz.		£	s.	d.
$\frac{1}{2}$	4	WS 2457	1	11	6
$\frac{3}{4}$	6	WS 2459	2	5	0
$\frac{7}{8}$	7	WS 2461	3	0	0
1	8	WS 2463	4	15	0

### SOFT COTTON SLEEVING (GREY)

Supplied in gross yard hanks only

Approx. internal diameter.	Cat. No.	Price per gross yards.	
ins.		s.	d.
.036	WS 2473	3	6
.064	WS 2475	4	0
.104	WS 2477	5	0
.128	WS 2479	6	0
.192	WS 2481	7	0
.276	WS 2483	8	6

*Quotations for large quantities on application.*

## EMPIRE CLOTH AND TAPE

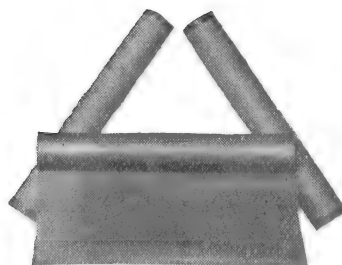
### (VARNISHED COTTON)

#### YELLOW EMPIRE CLOTH

Empire cloth or varnished cambric (also known as oiled linen, varnished linen, and oiled cambric) is a highly flexible non-absorbent insulating material of great mechanical and dielectric strength. It is used extensively as an insulator for the cores of armatures and other windings, and also as insulation for high voltage cables.

G.E.C. yellow Empire cloth is treated with a pure, thoroughly oxidized linseed oil varnish, and is able to withstand, without deterioration, all temperature ranges found in properly designed electrical apparatus. It complies with British Standard Specification No. 419 (1931).

Black Empire cloth can be supplied at same price as yellow.



WS 2493

Supplied in rolls 36 ins. × 50 yards.

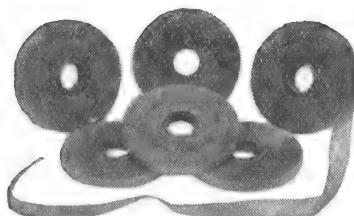
Thickness.	Approx. weight per 100 yards.	Cat. No.	Price per square yard.
ins. .010	lb. 56	WS 2493	s. d. 2 9

#### BIAS CUT EMPIRE TAPE

Although, if required, straight cut Empire tape can be supplied, it has been found that yellow bias cut Empire tape is preferred, chiefly on account of its elasticity, which ensures a tighter joint and neater wrappings on bends.

In preparing bias tape, yard-wide cloth is bias cut into lengths of about 50 inches, the edges butted together and joined on a sewing machine, the needle perforations being varnished. The cloth is then re-rolled and the tape sliced or cut into rolls, after which the tape is dipped in melted paraffin wax to hermetically seal it, and prevent unrolling.

Yellow bias cut Empire tape can be supplied in various thicknesses, but is stocked in 10 mils. thickness, as shown in the schedule below. Black Empire tape can be supplied at same price as yellow.



WS 2503/7

Supplied in 72-yard rolls.

Width.	Thickness.	Approx. weight per gross yards.	Cat. No.	Price per gross yards.
ins. $\frac{1}{8}$	ins. .010	lb. oz. 1 3	WS 2503	s. d. 6 0
$\frac{3}{8}$	.010	1 12	WS 2505	9 6
1	.010	2 5	WS 2507	12 6

*Quotations for large quantities on application.*

**S.E.C.****EMPIRE TAPE AND SLEEVING****(VARNISHED COTTON)****SEAMLESS BIAS EMPIRE TAPE**

The outstanding feature of seamless bias is the absence of either lap or stitching, making for a tighter and more uniform wrap, without lumps, wrinkles or air pockets. Seamless bias tape effects a great saving of time when taping coils, it lies flat with each overlap in direct contact with the opposing surface, and its insulating properties are therefore utilized to the full extent.

Many of the largest motor manufacturers have made seamless bias tape part of their standard specifications and recommend it to all their repair stations. Experience has proved that its use ensures a thoroughly sound job and reduces the possibility of defective workmanship.

**Supplied in 72-yard rolls**

Width.	Thickness.	Approx. weight per gross yards.		Cat. No.	Price per gross yards.	
ins.	ins.	lb.	oz.		s.	d.
$\frac{1}{2}$	.010		13	WS <b>2517</b>	<b>10</b>	<b>6</b>
$\frac{3}{4}$	.010	1	3	WS <b>2519</b>	<b>14</b>	<b>6</b>
1	.010	1	10	WS <b>2521</b>	<b>19</b>	<b>6</b>

**EMPIRE COTTON SLEEVING****WS 2531/39**

Empire sleeving combines high dielectric strength with great flexibility and smooth inner surface, and is particularly adapted to the insulating of conductors carrying high-potential currents.

Empire sleeving ranges in size from  $\frac{1}{8}$  to 10 mm. inside diameter, and averages about 3 ft. in length. It is made of woven fabric, impregnated with a special insulating compound. The dielectric strength ranges from 5,000 volts for the yellow tubing to 6,000 volts for the black. It is oil, water and acid proof, and will not deteriorate or lose its flexibility with age. It does not corrode bright metal surfaces, as occurs with rubber tubing.

Large stocks of sizes up to and including 3 mm. in various colours are carried. Larger sizes can be supplied promptly.

**Supplied in 3-foot lengths**

Approx. internal diameter.		Cat. No.	Price per gross yards.
ins.	mm.		£ s. d.
.039	1	WS <b>2531</b>	<b>1 16 0</b>
.059	1.5	WS <b>2533</b>	<b>1 18 6</b>
.079	2	WS <b>2535</b>	<b>2 0 0</b>
.098	2.5	WS <b>2537</b>	<b>2 5 0</b>
.118	3	WS <b>2539</b>	<b>2 10 0</b>

*Prices for larger sizes on application.***Varnished Silk Cloth, Tape and Sleaving**—Prices on application.

## INSULATING VARNISHES, PAINTS AND ENAMELS

The varnishes and enamels described below and in the following page will be found most suitable for those engaged in the manufacture, or repair, of electrical plant and apparatus.

Varnish is necessary not only to provide sound insulation, but also to protect delicate machinery against the action of oils, acids, water, moisture and other deleterious influences.

All insulating varnish, enamel and paint supplied by the G.E.C. is of the highest quality which is essential to ensure perfect insulation in the manufacture of armatures, coils, etc., and for the finishing and protection of electrical apparatus.

### SHELLAC VARNISH

Shellac varnish is manufactured from the best quality flake shellac and can be recommended generally for armature and coil building. It has high dielectric strength combined with good binding and cementing properties.

Flash point, Orange, 59–60° F.; Black, 62° F.

Cat. No.	Description.	Supplied in	Price per gallon.		
WS 2549	Shellac varnish, Orange	$\frac{1}{2}$ gall. cans	£	s.	d.
		1 pint cans	1	6	0
WS 2551	Do., do., Black	$\frac{1}{2}$ gall. cans	1	12	0
		1 pint cans	1	8	0
			1	14	0



WS 2549

### "OHMALINE" VARNISH

"Ohmaline" air-drying black is a favourite material with coil builders on account of the ease and speed with which it may be used, enabling coils to be formed, dipped, taped and dipped again, and finally dried and assembled in from three to four hours or even less.

Air-drying "Ohmaline" is the most convenient where stoving apparatus is not available, as it dries in air from half to one hour at ordinary temperatures, carries a fine finish, and while adapted for large work, is particularly useful for carrying out small repairs.

Although quick drying, "Ohmaline" is exceptionally plastic. It can be stoved at from 150° to 200° F. (65° C. to 93° C.), if required to hasten work, without destroying its plasticity, and will withstand even higher temperatures without injury.

Flash point, "Ohmaline," 96° F.; thinnings for "Ohmaline," 96° F.

Cat. No.	Description.	Supplied in	Price per gallon.		
WS 2553	"Ohmaline" air-drying black varnish ..	$\frac{1}{2}$ gal. cans	£	s.	d.
WS 2555	Thinnings for above .. ..	$\frac{1}{2}$ gal. cans	1	0	0
				12	6

Smaller quantities extra.

*Quotations for large quantities on application.*

# S.E.C.

## INSULATING VARNISHES, PAINTS AND ENAMELS

### "ISOLAC" VARNISH

Air-drying "Isolac" is a combined air-drying and baking varnish, which is acid and waterproof, has high electrical resistance, and remains plastic permanently. The last quality prolongs its life and enables it to withstand indefinitely the excessive vibration and long periods of heat generated in railway motors. Air-drying "Isolac" may be used advantageously on former wound armature coils of dynamos and motors.

Baking "Isolac" is primarily intended for use on armature coils on electric railway motors in view of its ability to resist, without deterioration, the long-continued heat stress to which this type of apparatus is subjected; it is, however, equally well suited for use on armature and field coils of all types of dynamos and motors. It should be baked at 212° F. (100° C.) for 4 to 6 hours.

Cat. No.	Description.	Supplied in	Price per gallon.	
WS 2563	Air-drying "Isolac," flash point 99° F...	} ½ gal. cans {	s.	d.
WS 2565	Baking "Isolac," flash point 99° F...		16	6
WS 2567	Thinnings for above, flash point 95°-96° F.		18	6
			10	6

### "ENDOLAC" VARNISH

"Endolac" finishing varnish is a spirit varnish, designed for use as a finishing coat on armature and field coils. It is a good insulator, effectively resists the action of lubricating oils, and gives a bright and glossy finish. Dries in air in 30 minutes.

Cat. No.	Description.	Supplied in	Price per gallon.		
WS 2569	"Endolac" finishing varnish, Black or Golden, flash point 60°-61° F...	} ½ gal. cans {	£	s.	d.
WS 2571	Thinnings for above, flash point 58° F...		1	15	0
			1	0	0

### "ANTI-SULPHURIC" ENAMEL

This high-grade enamel is the only reliable material for protecting metal, wood, etc., from the destructive action of sulphuric acid and other chemical fumes, and its chief qualities are that it is not only acid resisting, but also damp resisting, oil and grease resisting, heat resisting, weather resisting, adhesive, insulating and plastic.



WS 2573/81

Cat. No.	Description.	Supplied in	Price per gallon.		
WS 2573	Anti-Sulphuric Enamel : Black, flash pt. 56° F.	} ½ gal. cans {	£	s.	d.
WS 2575	Dark Red, do.		2	0	0
WS 2577	White, do.		2	0	0
WS 2579	Green, do.		2	3	0
WS 2581	Vermilion, do.		2	3	0
WS 2583	Thinnings for any of the above, flash pt. 56° F.		2	14	0
			1	1	6

### P. & B. COMPOUND PAINT

P. & B. compound paint may be used for preserving all woods and metals buried in the earth, exposed to sea water, or to the action of fumes of acids and alkalis. It is particularly adapted for application to wires and cables, and, owing to its rapid drying properties, may be applied continuously as the wire is unwound. Non-inflammable.

Cat. No. WS 2585, supplied in 1 gallon cans, Price £1 0 0 per gallon.

*Smaller quantities extra.*

## EBONITE

G.E.C. ebonite is manufactured at the G.E.C. Telephone Works, Coventry, which is completely equipped with the most modern plant and can produce large quantities of ebonite of guaranteed purity and uniformity.

In order to maintain the standard of purity, all ebonite produced at the G.E.C. works is absolutely free from any filling or loading substance and is manufactured to the G.P.O. and B. & A. Specifications; higher grade ebonite being designated "AA," "J," and "P" grades.

"AA" Grade Ebonite contains only the best quality rubber and sulphur; it is unsurpassed for strength and easy machining.

"J" Grade Ebonite is specially suited for the manufacture of telephone jack strips and other light machined and drilled components. It is recommended where extreme toughness and machining capability are required.

"P" Grade Ebonite is supplied in rod form and is used in large quantities by fountain pen manufacturers who find that its jet black colour and easy machining properties, including the fine polish it will take, is particularly suited to their purpose.

In addition to the manufacture of sheet, rod, and tube, a large area of the Ebonite section of the works is set aside for the moulding of ebonite components and moulded parts, such as ear and mouthpieces for the telephone industry, gear change knobs and radiator caps for the motor trade, and Stabalite and Ebonite components for use in the construction of magnetos.

The standard sizes for ebonite sheet are 36in. × 18in. and 24in. × 20in. (the edges being trimmed), in any thickness from 0.010in. up to 2in. The normal surface finish is designated "Tin Foll," and special attention is drawn to the fact that any metallic sheen adhering after the vulcanizing process is removed in a cyanide bath before a sheet is dispatched.

Panels up to 24in. × 20in. in size can be supplied with ground edges and a sandblasted matt surface; these are particularly suitable for the wireless trade.

Rod and tube ebonite can be supplied in diameters from 0.050in. up to 4in., usually in 3-ft. lengths.

The customary finishes for rod and tube are as follows:—

No. 1.—Unfrazed—i.e., surface as obtained from extruding machine, diameter limit of accuracy being 0.020in.

No. 2.—Rough ground, diameter limit of accuracy being 0.007in.

No. 3.—Medium ground surface, diameter limit of accuracy being 0.005in.

No. 4.—Fine ground finish, ready for the final mopping operation, as in the fountain pen trade, diameter limit of accuracy being 0.002in.

The No. 1, or unfrazed, finish, rod or tube is usually suitable for the manufacture of machined components.

In supplying ebonite to customers, the ends of the material are painted to the following colour schedule to denote the quality of material supplied:—

Red	denotes	"A"	quality.
Green	"	"B"	"
White	"	"AA"	"
Blue	"	"J"	"
Yellow	"	"P"	"

For prices of ebonite sheets and rods see next page.

## TUBING

The weight of 1000 ft. of any size ebonite tubing can be obtained by employing the following formula:—

$$393 \times (\text{external diam. in inches})^2 - (\text{internal diam. in inches})^2.$$

For example:—Weight of 1,000 ft.  $\frac{1}{4}$ in. ×  $\frac{1}{4}$ in. tubing =  
 $393 (\frac{1}{4}^2 - \frac{1}{8}^2) = 393 (0.25 - 0.062)$   
 $= 393 \times 0.188 = 73.88 \text{ lbs.}$

*Prices for ebonite tubing on application.*

## EBONITE

### SHEET

Ebonite sheet is usually manufactured in two sizes, viz.: 36" × 18" and 24" × 20".

The weight of a sheet 36" × 18" = 28 × thickness in inches.

For example, a sheet 36" × 18" ×  $\frac{1}{4}$ " weighs 28 ×  $\frac{1}{4}$ " = 7 lb.

The weight of a sheet 24" × 20" = 20 × thickness in inches.

A number of examples of sheet weights are given in the following table, but any other weights can be obtained readily by using the above simple formula.

Thickness.		Approx. weight per sheet 36" × 18"	Approx. weight per sheet 20" × 24"	P.O.—"B" Quality. Tin Foil Finish.		P.O.—"A" Quality. Tin Foil Finish.	
Decimals.	Fractions.			Cat. No.	Price per lb.	Cat. No.	Price per lb.
ins.	ins.	lb.	lb.		s. d.		s. d.
.0156	$\frac{1}{64}$	0.44	0.312	—	—	WS 2621	18 0
.031	$\frac{1}{32}$	0.88	0.625	—	—	WS 2623	7 6
.062	$\frac{1}{16}$	1.75	1.25	—	—	WS 2625	5 0
.125	$\frac{1}{8}$	3.50	2.5	WS 2595	4 6	WS 2627	4 9
.187	$\frac{3}{16}$	5.25	3.74	WS 2597	4 3	WS 2629	4 6
.250	$\frac{1}{4}$	7.0	5.0	WS 2599		WS 2631	
.312	$\frac{5}{16}$	8.74	6.24	WS 2601		WS 2633	
.375	$\frac{3}{8}$	10.50	7.50	WS 2603		WS 2635	
.500	$\frac{1}{2}$	14.0	10.0	WS 2605	3 9	WS 2637	4 0
.625	$\frac{5}{8}$	17.5	12.50	WS 2607		WS 2639	
.750	$\frac{3}{4}$	21.0	15.0	WS 2609		WS 2641	
1.000	1	28.0	20.0	WS 2611		WS 2643	

Matt and polished finishes can also be supplied—prices on application.

The above complies with British Standard Specification No. 234.

### ROD

Ebonite rod is manufactured in all diameters up to about 4" and usually in either 3-ft. or 1-metre lengths.

Weight of 1000 ft. of ebonite rod = 393 × (diameter in inches)<sup>2</sup>.

For example:  $\frac{1}{4}$ " rod—weight of 1000 ft. = 393 × ( $\frac{1}{4}$ )<sup>2</sup> =  $\frac{393}{16}$  = 24.56 lb.

Diameter.		Approx. weight per 1000 ft.	P.O.—"B" Quality. No. 2 Finish.		P.O.—"A" Quality. No. 2 Finish.	
Decimals.	Fractions.		Cat. No.	Price per lb.	Cat. No.	Price per lb.
ins.	ins.	lb.		s. d.		s. d.
.0625	$\frac{1}{16}$	1.50	—	—	WS 2679	18 0
.125	$\frac{1}{8}$	6.0	—	—	WS 2681	12 0
.187	$\frac{3}{16}$	14	WS 2653	7 9	WS 2683	8 0
.250	$\frac{1}{4}$	24.5	WS 2655	6 6	WS 2685	6 9
.312	$\frac{5}{16}$	38	WS 2657	5 6	WS 2687	5 9
.375	$\frac{3}{8}$	55	WS 2659	5 0	WS 2689	5 3
.437	$\frac{7}{16}$	75	WS 2661		WS 2691	
.500	$\frac{1}{2}$	98	WS 2663		WS 2693	
.625	$\frac{5}{8}$	153	WS 2665	4 6	WS 2695	4 9
.750	$\frac{3}{4}$	220	WS 2667		WS 2697	
1.000	1	393	WS 2669		WS 2699	

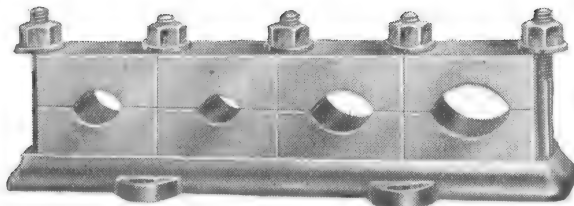
Rods up to  $1\frac{1}{4}$ " diam. are supplied in approx. 3-ft. lengths.

Rods over  $1\frac{1}{4}$ " diam. are supplied in approx. 2-ft. lengths.



## CAST IRON CABLE-RACKS WITH "WITTONITE" CLEATS

Cable-racks are supplied consisting of a cast iron base fitted with cleats moulded from WITTONITE material.



Four-way rack, type " R,"  
fitted with one pair of each size of type " R " cleats.

WITTONITE possesses the following advantages over porcelain :—

- (1.) Superior mechanical strength.
- (2.) Uniformity of dimensions.
- (3.) Lightness.
- (4.) Cheapness.

Moreover, when used in dusty situations, racks fitted with WITTONITE cleats do not show the dirt, and in the event of the cleat being screwed up too tightly it will not splinter, with consequent risk of injury to the insulation of the cable.

WITTONITE cleats are stocked in the following sizes :—

Catalogue No.	Type	Dimensions.	Price per pair.
		ins.	s. d.
WS <b>2709</b>	" R "	$3\frac{1}{8}$ long $\times$ $2\frac{1}{2}$ wide.	<b>1 10</b>
WS <b>2711</b>	" S "	$2\frac{1}{8}$ long $\times$ 2 wide.	<b>9</b>
WS <b>2713</b>	" Q "	$4\frac{1}{8}$ long $\times$ $2\frac{1}{2}$ wide.	<b>2 5</b>

Type " R " cleats are supplied with four different sizes of apertures, Type " S " with six, and Type " Q " with one. When ordering, either the size of the cable being used or the size of groove required must be specified. The sizes of cables taken by each type of cleat are as follows :—

TYPE " R " Cat. No. WS <b>2709</b>		TYPE " S " Cat. No. WS <b>2711</b>		TYPE " Q " Cat. No. WS <b>2713</b>	
No.	Diameter of cable taken.	No.	Diameter of cable taken.	No.	Diameter of cable taken.
	ins.		ins.		ins.
1	$1 - 1\frac{3}{8}$	1	$\frac{3}{8} - \frac{9}{16}$	1	$3 - 3\frac{1}{2}$
2	$1\frac{7}{16} - 1\frac{11}{16}$	2	$\frac{5}{8} - \frac{3}{4}$	—	—
3	$1\frac{3}{4} - 2\frac{1}{16}$	3	$\frac{11}{16} - 1$	—	—
4	$2\frac{1}{8} - 2\frac{1}{2}$	4	$1\frac{1}{16} - 1\frac{5}{16}$	—	—
—	—	5	$1\frac{3}{8} - 1\frac{9}{16}$	—	—
—	—	6	$1\frac{5}{8} - 1\frac{3}{4}$	—	—

## CAST IRON CABLE-RACKS WITH "WITTONITE" CLEATS

Racks fitted with WITTONITE cleats have been supplied to Government departments, railways, municipal councils and leading electrical contractors and are found to be highly satisfactory. Special prices can be quoted for large quantities. Wrought iron bases can be substituted if necessary, thus effecting a slight saving.

Cast iron bases up to and including three ways have two fixing holes; four-way and above have four.

### COMPLETE SINGLE TIER RACKS

No. of ways.	TYPE "R," Cat. No. WS 2721 (cast iron base).			TYPE "S," Cat. No. WS 2731 (cast iron base).			TYPE "Q," Cat. No. WS 2733 (wrought iron base).		
	Length of base (approx.)	Weight (approx.) with cleats.	Price each.	Length of base (approx.)	Weight (approx.) with cleats.	Price each.	Length of base (approx.)	Weight (approx.) with cleats.	Price each.
1	ins. 5½	lb. 4½	s. d. 4 0	ins. 4½	lb. 2½	s. d. 2 7	ins. 8½	lb. 5½	s. d. 4 6
2	9½	7½	6 7	7½	4	3 10	13½	9½	7 6
3	13½	10½	9 4	10½	6	5 5	18½	13½	10 6
4	17½	14	12 0	13½	7½	6 10	—	—	13 9
5	21½	16½	14 9	16½	9½	8 5	—	—	17 0
6	25½	20½	17 5	19½	11½	9 8	—	—	20 6

Racks with two tiers of cleats can be supplied at an extra price (in addition to the cost of the extra cleats employed) of 2d. per way for Types "R" and "S," and 3d. per way for Type "Q."

Ragbolts (4½" × ½") for fixing above racks, Cat. No. WS 3923, Price £4 1s. 0d. per gross.

## "WITTONITE" INSULATORS



WS 2741



WS 2743



WS 2745



WS 2747

WITTONITE meter-board insulators are exactly similar to the corresponding porcelain insulators. The mining reel, however, has the advantage over the porcelain reel of being fitted with a boss on each face. When used in damp situations this prevents moisture from trickling into the groove and affecting the insulation of the cable as a clear path is left for the moisture to travel down the face of the wall.

WITTONITE Cordeau pattern insulators have given satisfactory service under the most exacting conditions, and have been specified by many prominent public bodies both at home and abroad. They combine utility and economy with a neat semi-gloss finish, and, when erected, are inconspicuous in appearance.

Description.	Cat. No.	Weight per dozen.		Price.			
				Per gross.		Per dozen.	
Meter-board insulators	WS 2741 WS 2743	lb.	oz.	s.	d.	s.	d.
				6	6		9
			2	6	0		9
Mining reels .. ..	WS 2745	1	5	16	0	1	6
Cordeau pattern insulators	WS 2747	Weight each.					
		1	1	144	0	13	6

For porcelain insulators see pages 200 to 202.

## PRESSPAHN

Glazed "Presspahn" consists of pressed paper, the surface of which has been highly glazed. The average puncture test is 300 R.M.S. volts per mil. (.001").

All G.E.C. "Presspahn" complies with British Standard Specification No. 231 (1925) for pressboard for electrical purposes.

**Supplied in Sheets 24 ins. × 32 ins.**

Thickness.			Approx. weight per 100 sheets.	Cat. No.	Price per 100 sheets.	Thickness.			Approx. weight per 100 sheets.	Cat. No.	Price per 100 sheets.
ins.	mm.	lb.				ins.	mm.	lb.			
.004	.1	15	WS	<b>2759</b>	<b>56 0</b>	.032	.8	112	WS	<b>2781</b>	<b>168 0</b>
.008	.2	30	WS	<b>2761</b>	<b>67 6</b>	.039	1.0	137	WS	<b>2783</b>	<b>185 0</b>
.010	.25	35	WS	<b>2763</b>	<b>85 6</b>	.059	1.5	200	WS	<b>2785</b>	<b>270 0</b>
.012	.3	43	WS	<b>2765</b>	<b>94 6</b>	.079	2.0	270	WS	<b>2795</b>	<b>350 0</b>
.016	.4	58	WS	<b>2767</b>	<b>100 0</b>	.098	2.5	330	WS	<b>2797</b>	<b>450 0</b>
.020	.5	72	WS	<b>2777</b>	<b>112 6</b>	.118	3.0	400	WS	<b>2799</b>	<b>550 0</b>
.024	.6	84	WS	<b>2779</b>	<b>126 0</b>						

## LEATHEROID

Leatheroid is made from a special grade of vulcanized fibre, and is given an intensive treatment to ensure high dielectric strength. The bending qualities and high tensile property of this paper permit it to be formed readily into the special and peculiar shapes required in insulation work. It contains no artificial colouring matter, and is furnished only in the natural colour, which is grey or slate.

Average puncture test 350 R.M.S. volts per mil. (.001").

**Thicknesses from .004in. to .025in. supplied in rolls 48ins. to 54ins. wide.**

**Thicknesses from .030in. and upwards supplied in sheets 72in. × 48ins.**

Thick-ness.		Approx. weight per roll.	Cat. No.	Price per lb.	Thickness.	Approx. weight per sheet.	Cat. No.	Price per lb.
ins.	lb.			s. d.	ins.	lb.		s. d.
.004	112	WS	<b>2809</b>	4 6	.030	4½	WS	<b>2837</b>
.005	112	WS	<b>2811</b>	3 9	.040	6½	WS	<b>2847</b>
.007	112	WS	<b>2813</b>		.060	9	WS	<b>2849</b>
.008	112	WS	<b>2815</b>		.080	12½	WS	<b>2851</b>
.010	112	WS	<b>2817</b>		.093 = ⅜	14½	WS	<b>2853</b>
.012	112	WS	<b>2829</b>		.125 = ½	19	WS	<b>2855</b>
.015	112	WS	<b>2831</b>		.187 = ⅞	28½	WS	<b>2857</b>
.020	112	WS	<b>2833</b>					
.025	112	WS	<b>2835</b>					

## "GIANT IMPERMEABLE" INSULATING PAPER

This paper may be cut or torn in any way, and still remain absolutely impermeable to moisture under any circumstances; is a perfect insulator, and not affected by heat up to a point of carbonization of the fibre.

The three-ply paper will be found to be an excellent substitute for mica, etc., for ring or other armatures, and the one-ply a most excellent material for wrapping field coils and armatures.

**Supplied only in complete standard rolls of 1000 square feet × 36ins. wide.**

Description.	Thickness.	Breakdown voltage at 77° F.	Volts per mil.	Approx. weight per roll.	Cat. No.	Price per roll.
	mils.	volts.		lb.		s. d.
1-Ply	10	1190	149	50	WS	<b>2867</b>
2-Ply	15	1637	137	75	WS	<b>2869</b>
3-Ply	20	2650	132	100	WS	<b>2871</b>
						<b>52 0</b>
						<b>62 6</b>
						<b>80 0</b>

## VULCANIZED FIBRE

The properties of hard vulcanized fibre make it invaluable for electrical insulation. Its remarkable adaptability, in addition to its dielectric strength, has won for it a foremost place in the electrical field. Severe tests under varying conditions have established its ability to give excellent service while withstanding degrees of heat, cold, friction and vibration that would cause other materials to deteriorate rapidly.

G.E.C. hard vulcanized fibre conforms to British Standard Specification No. 216 (1926).

Supplied in three colours : Red, Grey or Black.

### HARD VULCANIZED FIBRE SHEET

Standard Size Sheets Approx. 48 × 72 ins.

Thickness.	Approx. weight per standard sheet.	Cat. No.	Price per lb.	Thickness.	Approx. weight per standard sheet.	Cat. No.	Price per lb.
ins.	lb.			ins.	lb.		
$\frac{1}{16}$	2 $\frac{1}{2}$	WS 2881	On application	$\frac{7}{16}$	70	WS 2907	On application
$\frac{3}{16}$	5	WS 2883		$\frac{1}{2}$	80	WS 2909	
$\frac{1}{4}$	7 $\frac{1}{2}$	WS 2885		$\frac{9}{16}$	90	WS 2911	
$\frac{5}{16}$	10	WS 2887		$\frac{5}{8}$	100	WS 2913	
$\frac{3}{8}$	15	WS 2889		$\frac{11}{16}$	120	WS 2915	
$\frac{7}{16}$	20	WS 2891		$\frac{3}{4}$	140	WS 2917	
$\frac{1}{2}$	30	WS 2893		1	160	WS 2919	
$\frac{5}{8}$	40	WS 2895		1 $\frac{1}{8}$	180	WS 2921	
$\frac{3}{4}$	50	WS 2897		1 $\frac{1}{4}$	200	WS 2923	
$\frac{7}{8}$	60	WS 2899		1 $\frac{1}{2}$	240	WS 2925	

### HARD VULCANIZED FIBRE RODS

Standard Size Rod Approx. 60 ins. long

Diam.	Approx. weight of 100 ft.	Approx. number of ft. in 1 lb.	Cat. No.	Price per lb.	Diam.	Approx. weight of 100 ft.	Approx. number of ft. in 1 lb.	Cat. No.	Price per lb.
ins.	lb.				ins.	lb.			
$\frac{1}{16}$	.41	241.43	WS 2933	On application	$\frac{13}{16}$	31.11	3.22	WS 2965	On application
$\frac{3}{16}$	.74	135.80	WS 2935		$\frac{7}{8}$	36.08	2.77	WS 2967	
$\frac{1}{4}$	1.65	60.36	WS 2937		$\frac{15}{16}$	41.42	2.42	WS 2969	
$\frac{5}{16}$	2.95	33.95	WS 2939		1	47.12	2.12	WS 2971	
$\frac{3}{8}$	4.60	21.73	WS 2941		1 $\frac{1}{8}$	59.64	1.68	WS 2973	
$\frac{7}{16}$	6.62	15.09	WS 2943		1 $\frac{1}{4}$	73.63	1.36	WS 2975	
$\frac{1}{2}$	9.02	11.09	WS 2945		1 $\frac{3}{8}$	89.09	1.12	WS 2977	
$\frac{5}{8}$	11.78	8.49	WS 2947		1 $\frac{1}{2}$	106.03	.943	WS 2979	
$\frac{3}{4}$	14.91	6.71	WS 2949		1 $\frac{3}{4}$	124.42	.803	WS 2981	
$\frac{7}{8}$	18.40	5.43	WS 2951		2	144.32	.693	WS 2983	
$\frac{15}{16}$	22.27	4.49	WS 2953			165.67	.604	WS 2985	
$\frac{1}{2}$	26.51	3.77	WS 2955			188.50	.530	WS 2987	

### “ELEPHANTIDE” PRESSBOARD

“Elephantide” Pressboard is noted for its consistently high electrical breakdown value and uniformity of structure and is the ideal pressboard for electrical transformers, switchgear, motors and other types of electrical apparatus. It complies with British Standard Specification No. 231 (1925).

“Elephantide” Pressboard can be supplied in sheet form from 0.004in. to 2.5 in. thick, or in cylinder, tube, roll, stamping or tape form.

Prices on application.

# HARD VULCANIZED FIBRE TUBES

**Standard Size Tubes, 24 ins. to 34 ins. long**

Internal diam.	Thickness of wall ⅜ in.		Internal diam.	Thickness of wall ⅜ in.		Internal diam.	Thickness of wall ½ in.	
	Cat. No.	Price per lb.		Cat. No.	Price per lb.		Cat. No.	Price per lb.
ins.			ins.			ins.		
$\frac{3}{16}$	WS 2997	On application	$\frac{3}{16}$	WS 3025	On application	$\frac{3}{16}$	WS 3053	On application
$\frac{1}{4}$	WS 2999		$\frac{1}{4}$	WS 3027		$\frac{1}{4}$	WS 3055	
$\frac{5}{16}$	WS 3001		$\frac{5}{16}$	WS 3029		$\frac{5}{16}$	WS 3057	
$\frac{3}{8}$	WS 3003		$\frac{3}{8}$	WS 3031		$\frac{3}{8}$	WS 3059	
$\frac{7}{16}$	WS 3005		$\frac{7}{16}$	WS 3033		$\frac{7}{16}$	WS 3061	
$\frac{1}{2}$	WS 3007		$\frac{1}{2}$	WS 3035		$\frac{1}{2}$	WS 3063	
$\frac{9}{16}$	WS 3009		$\frac{9}{16}$	WS 3037		$\frac{9}{16}$	WS 3065	
$\frac{5}{8}$	WS 3011		$\frac{5}{8}$	WS 3039		$\frac{5}{8}$	WS 3067	
$\frac{11}{16}$	WS 3013		$\frac{11}{16}$	WS 3041		$\frac{11}{16}$	WS 3069	
$\frac{3}{4}$	WS 3015		$\frac{3}{4}$	WS 3043		$\frac{3}{4}$	WS 3071	

## APPROX. WEIGHT PER 100 FEET OF TUBE

Internal Diameter.	THICKNESS OF WALL.							
	$\frac{1}{16}$ in.	$\frac{1}{8}$ in.	$\frac{3}{16}$ in.	$\frac{1}{2}$ in.	$\frac{5}{8}$ in.	$\frac{3}{4}$ in.	$\frac{7}{8}$ in.	1 in.
ins.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
$\frac{1}{8}$	.97	2.34	4.09	6.25	—	—	—	—
$\frac{3}{16}$	1.36	3.12	5.29	7.85	—	—	—	—
$\frac{1}{4}$	1.75	3.90	6.45	9.43	12.70	16.42	—	—
$\frac{5}{16}$	2.14	4.69	7.63	10.94	16.46	18.76	—	—
$\frac{3}{8}$	2.54	5.46	8.77	12.50	16.61	21.09	—	—
$\frac{7}{16}$	2.93	6.24	10.00	14.06	18.55	23.47	—	—
$\frac{1}{2}$	3.32	6.98	11.13	15.62	20.53	25.83	31.44	37.59
$\frac{9}{16}$	3.71	7.80	12.30	17.18	22.47	28.16	34.24	40.65
$\frac{5}{8}$	4.10	8.60	13.47	18.76	24.44	30.48	36.90	43.85
$\frac{11}{16}$	4.49	9.38	14.66	20.32	26.38	32.78	39.68	46.94
$\frac{3}{4}$	4.88	10.15	15.82	21.88	28.32	35.21	42.37	50.00
$\frac{7}{8}$	5.26	10.94	17.00	23.47	30.30	37.59	45.04	53.19
$\frac{15}{16}$	5.66	11.72	18.18	25.00	32.25	39.84	47.84	56.17
1	6.04	12.50	19.34	26.59	34.24	42.19	50.76	59.52
$1\frac{1}{8}$	6.44	13.26	20.53	28.16	36.10	44.64	53.47	62.50
$1\frac{1}{4}$	7.24	14.85	22.88	31.25	40.16	49.26	58.82	68.96
$1\frac{1}{2}$	8.00	16.40	25.18	34.36	44.05	54.05	64.51	75.18
$1\frac{3}{4}$	8.80	17.75	27.54	37.59	47.84	58.47	69.93	81.30
$1\frac{7}{8}$	9.58	19.24	29.94	40.65	51.81	63.29	75.18	87.71
$1\frac{9}{8}$	10.35	21.10	32.25	43.85	55.86	68.02	80.64	94.00
$1\frac{11}{8}$	11.15	22.65	34.60	46.94	59.52	72.99	86.20	100.0
$1\frac{13}{8}$	11.90	24.20	36.90	50.00	63.69	77.51	91.74	106.2
2	12.70	25.80	39.21	53.19	67.56	81.96	97.08	112.4

## MICA AND MICANITE

### MICA

Mica can be supplied in so many grades and prices fluctuate so much that it is impossible to give a fixed schedule of prices, but prices will be quoted for the following :—(1) Electrical spotted, stained ruby, clear mica (ruby or green), amber (silver or dark). (2) Mica splittings, mica washers for rheostats, etc., mica commutator segments. (3) Condenser plates, mica uncut or cut and gauged as required.

### MOULDING MICANITE PLATE

Moulding micanite is made up of clear India mica. It will soften and can be moulded into any shape at a temperature of 250° F., and can be easily sawn and drilled. Average puncture test 1000 R.M.S. volts per mil. (.001").

Thickness in inches.	Stock size sheets.	Approx. weight per sheet.	Cat. No.	Price per lb.
	ins.	lb. oz.		s. d.
.012	36 × 36	1 4	WS 3081	7 0
.015 = $\frac{1}{16}$		1 8	WS 3083	6 0
.030 = $\frac{1}{8}$		3 4	WS 3085	5 0
.040		4 4	WS 3087	5 0
.062 = $\frac{1}{4}$		6 8	WS 3089	4 6
.100		10 8	WS 3091	4 6
.125 = $\frac{1}{2}$		13 4	WS 3093	4 6

### FLEXIBLE MICANITE SHEET

Flexible micanite consists of soft mica made up with an adhesive and is flexible at all temperatures. The thinner sizes can easily be cut with scissors, and the thicker sizes with a hand guillotine. Average puncture test 800 R.M.S. volts per mil. (.001").

Thickness in inches.	Stock size sheets.	Approx. weight per sheet.	Cat. No.	Price per lb.
	ins.	lb. oz.		s. d.
.010	40 × 40	1 0	WS 3103	7 0
.015		1 12	WS 3105	5 0
.020		2 4	WS 3107	5 0
.025		2 12	WS 3109	5 0

### MICANITE CLOTH

Micanite cloth is similar to flexible micanite but with cloth on one or both sides. Unless otherwise ordered it is supplied with cloth on one side and Japanese paper on the other. Average puncture test 450 R.M.S. volts per mil. (.001").

Thickness in inches.	Stock size sheets.	Approx. weight per sheet.	Cat. No.	Price per lb.
	ins.	lb. oz.		s. d.
.008	36 × 36	8	WS 3119	7 0
.010		10	WS 3121	7 0
.015		1 0	WS 3123	7 0
.020		1 4	WS 3125	6 0

### MICANITE PAPER

Micanite paper is similar to flexible micanite except that it has a layer of Japanese paper on each side. Average puncture test 500 R.M.S. volts per mil (.001").

Thickness in inches.	Stock size sheets.	Approx. weight per sheet.	Cat. No.	Price per lb.
	ins.	lb. oz.		s. d.
.006	40 × 40	8 $\frac{1}{2}$	WS 3135	7 6
.008		11	WS 3137	7 0
.010		14	WS 3139	6 0
.015		1 4	WS 3141	6 0

EXTRA.—Quantities less than one standard sheet, 10 per cent.

Prices for micanite washers and micanite tubing on application.

## JOINTING MATERIALS

### STRIPS AND TAPES

#### PURE PARA CUT INDIA-RUBBER STRIP

This strip is composed entirely of fine Brazilian hard cured Para rubber and is cut from the solid block, no solvent being used in its manufacture; .028" thick. Approx. 27½ yards of 1" to the pound.



**WS 3153**

Description.	Cat. No.	Price per lb.
Widths ½", ¾", 1" supplied in ½ lb. rolls . . Weight includes paper separator.	<b>WS 3153</b>	s. d. <b>7 0</b>

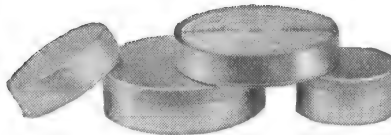
#### "OMEGA" ADHESIVE TAPE (BLACK)

A high-grade insulating tape, composed of a fine closely woven fabric of high tensile strength. It is thoroughly impregnated with a special quality insulating compound by being passed twice through heavy calendar rolls, which is the only process that positively ensures against pinholes.



**WS 3155**

"Omega" Tape will retain its great adhesive power (over 50 lbs. per sq. in.) for a considerable period, is very durable, has a tensile strength of over 40 lb., is guaranteed free from pinholes and has perfect insulating qualities. Approx. 44 yards of ¾" to the pound.



Pure Para strip and "Omega" tape  
in tins for export.

Description.	Cat. No.	Price per lb.
Widths ½", ¾", 1" supplied in ½ lb. rolls . . Weight includes wrapping.	<b>WS 3155</b>	s. d. <b>2 6</b>

#### "MAGNA" SPLICING TAPE

High grade, suitable for both high and low tension cables. This splicing tape is scientifically compounded, exceptionally strong and very elastic, and when wound to the object forms into a solid tube, thus making a thoroughly watertight joint of the highest insulation quality.

Approx. 15 yards of ¾" to the pound.

Description.	Cat. No.	Price per lb.
Widths ½", ¾", 1" supplied in ½ lb. rolls . . . . . Weight includes glazed cloth separator.	<b>WS 3157</b>	s. d. <b>3 6</b>

## JOINTING MATERIALS

### TAPES AND SLEEVES

#### "P AND B" TAPE

The best known waterproof, acid and alkali-proof tape, suitable for hard service. P. & B. tape is manufactured from the best and strongest cotton sheeting, saturated with P. & B. insulating compound so prepared as to develop extreme adhesiveness and lasting pliability. In tram and railway work, for use on motor leads, trolley poles, and in various positions on the under parts of electric cars where the tape is constantly subjected to rough usage, it is without equal.

Particulars.		Cat. No.	Price per roll.	
Widths.	Supplied in rolls.		s.	d.
$\frac{1}{2}$ "	$\frac{1}{2}$ lb.	WS 3159	1	0
$\frac{3}{4}$ "	$\frac{3}{4}$ lb.		1	1 $\frac{1}{2}$
$1\frac{1}{4}$ "	$1\frac{1}{4}$ lb.		1	6
1"	$\frac{3}{4}$ lb.		2	0
2"	1 $\frac{1}{2}$ lb.		4	0

All widths supplied in rolls of 50 lineal feet.

#### PAPER SLEEVES

Uniform in texture and thickness, strong, free from metallic particles and from deleterious substances. Pasted throughout with a pure adhesive most suitable for the work called for. Supplied in various sizes as required. Cat. No. WS 3170. Prices on application.

#### CADMIUM COPPER TAPES AND BINDERS

To British Standard Specification No. 178

Description.	Length.	Approx. number to the lb.	Cat. No.	Price.
	ins.			
Tapes, cadmium copper No. 1 ..	6 $\frac{1}{2}$	260	WS 3171	On application.
Tapes, cadmium copper No. 2 ..	9	200	WS 3173	
Binders, cadmium copper No. 1 ..	12	80	WS 3175	
Binders, cadmium copper No. 2 ..	17	37	WS 3177	

#### CADMIUM COPPER JOINTING SLEEVES

To British Standard Specification No. 181

Description.	Type.	Length.	Weight per 100 sleeves.	Cat. No.	Price.
		ins.	oz.		
Sleeves, cadmium copper, for 40 lb. wire	No. 13 long	2 $\frac{1}{2}$	7 $\frac{1}{2}$	WS 3179	On application.
	No. 14 short	1 $\frac{1}{2}$	4 $\frac{1}{2}$	WS 3181	
Sleeves, cadmium copper, for 70 lb. wire	No. 15 long	2 $\frac{1}{2}$	9 $\frac{1}{2}$	WS 3183	
	No. 16 short	1 $\frac{1}{2}$	6 $\frac{1}{2}$	WS 3185	

#### COPPER JOINTING SLEEVES

To British Standard Specification No. 179

Description.	Type.	Length.	Weight per 100 sleeves.	Cat. No.	Price.
		in.	oz.		
Sleeves, copper, for 40 lb. and 12 $\frac{1}{2}$ lb. wires	No. 10	$\frac{5}{8}$	1.84	WS 3187	On application.

#### DUREXSIL CLOTH

The hardest and sharpest of all abrasives, sheets 9" x 11"

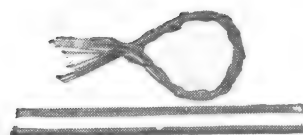
Description.		Cat. No.	Price per quire of 24 sheets.	
			s.	d.
Fine (Grit No. 220) .. ..		WS 3213	19	0
Medium ( " " 120) .. ..		WS 3215	19	0
Rough ( " " 60) .. ..		WS 3217	22	0

Prices for rolls or special Grit Nos. on application.



# **SOLDER AND FLUX**

Description.	Cat. No.	Price per lb.	
<b>THIN WIRE SOLDER</b> for copper wire joints .. To B.S.S. No. 219 (1932), Grade. C	WS 3189	s.	d.
<b>THICK STICK SOLDER</b> for copper wire joints .. To B.S.S. No. 219 (1932), Grade. C	WS 3191	2	8
<b>FINE QUALITY CLEAR AMBER RESIN</b> .. .. .	WS 3193	2	4
<b>" PELCO " RESIN CORED SOLDER</b> No. 12 S.W.G. Particularly recommended for linesman's work owing to its convenience and the economy effected by its use, To B.S.S. No. 219 (1932), Grade F and B.S.S. No. 441 (1932) .. .. .	WS 3195	1	0
<b>BURNLEY'S " ROZINAL " SOLDERING PASTE.</b> When applied to the joint with brush or stick it effects instant and efficient soldering or tinning. Non-corrosive, self-adhesive and makes solder spread rapidly. Supplied in approx. $\frac{1}{4}$ lb. tins " " " $\frac{1}{2}$ lb. tins " " " 1 lb. tins	WS 3197 WS 3199 WS 3201	Per tin.	10 1 6 2 10
<b>" BAKER'S PREPARATION."</b> Instantly " tins " and cleans irons. Makes a clean, strong joint, and does not rust or discolour bright metals. Small tins ( $7\frac{1}{2}$ liquid ozs.) .. Large tins (12 liquid ozs.) ..	WS 3203 WS 3205	1 4 2 0	
<b>" FLUXITE."</b> A paste flux with which even dirty metals can be soldered and " tinned." Does not " poison " solder nor corrode metal, and can be used safely on electrical apparatus. " Fluxite " is suitable for all metals except aluminium. Supplied in approx. 2 oz. tins " " " 6 oz. tins " " " 1 lb. tins	WS 3207 WS 3209 WS 3211	1 0 2 0 4 0	


**WS 3189/91**

**WS 3195**

**WS 3197/3201**

*All prices are subject to market fluctuations.*

# S.E.C.

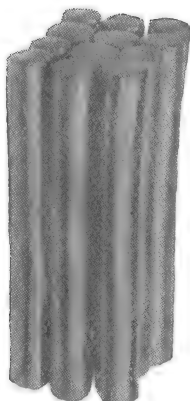
## JOINTING MATERIALS

### "SECURITAS" NON-INFLAMMABLE RUBBER SOLUTION

This solution is absolutely non-inflammable. It makes a waterproof and air-tight joint, dries rapidly, and is unaffected by heat, cold or damp.



WS 3227



WS 3247/9

Description.	Cat. No.	Price per lb.
Enamelled collapsible tubes $\frac{1}{4}$ lb. ..	WS 3227	s. d. 3 9
Lever lid tins, $\frac{1}{4}$ lb. .. ..	WS 3231	3 9
Ditto, $\frac{1}{2}$ lb. .. ..	WS 3233	3 6
Ditto, 1 lb. .. ..	WS 3235	3 0

### COMPOUNDS Etc.

<b>PURE WHITE PARAFFIN WAX.</b> Best quality and a first-class insulating material. Melting point 118-120° F. Stocked in 1 and 2-lb. slabs .. ..		WS 3245	1 0
<b>CHATTERTON COMPOUND.</b> Highly flexible, rich in rubber, it is recommended for use where absolute waterproof joints are required. In $\frac{1}{4}$ lb. sticks .. .. In 2 oz. sticks .. ..		WS 3247 WS 3249	4 0 4 6
<b>BITUMEN.</b> Remains ductile at low temperatures and does not bleed at high temperatures, has a very high flash point, and the correct degree of adhesiveness. Supplied in 1 cwt. or 5 cwt. barrels (gross weights) .. .. 28 lb. tins .. .. 14 lb. tins .. .. 7 lb. tins .. ..		WS 3251 WS 3253 WS 3255 WS 3257	Per cwt. 27 6 32 6 35 0 37 6
<b>JOINT BOX COMPOUND.</b> Carefully refined, homogeneous, highly adhesive and elastic. <b>Low Tension</b> , for use on circuits up to 1,000 volts. Melting point 170° F. Specific insulation resistance, 350,000,000 megohms. Breakdown test thickness of 1.6 mm., 40,000 volts. Supplied in 1 cwt. or 5 cwt. barrels (gross weights) .. .. 28 lb. tins .. .. 14 lb. tins .. .. 7 lb. tins .. .. <b>High Tension</b> , for use on circuits up to 30,000 volts. Melting point, 170° F. Specific insulation resistance, 420,000,000 megohms. Breakdown test thickness of 1.6 mm., 58,000 volts. Supplied in 1 cwt. or 5 cwt. barrels (gross weights) .. .. 28 lb. tins .. .. 14 lb. tins .. .. 7 lb. tins .. ..		WS 3259 WS 3261 WS 3263 WS 3265  WS 3267 WS 3269 WS 3271 WS 3273	30 0 35 0 37 6 40 0  32 6 37 6 40 0 42 6

Prices for large quantities on application.

**G.E.C.**

## RUBBER GLOVES AND GAUNTLETS

G.E.C. india-rubber gloves and gauntlets are made of best quality plantation rubber. The seams are reinforced.

All gloves and gauntlets are tested, under the following conditions, to withstand 5,000 volts. Each glove is filled with water, suspended in a zinc tank full of water, and subjected to 5,000 volts for five minutes. All gloves bear the test stamp.



**WS 3283/7**

Cat. No.	Description.	Approx. weight per pair.	Price per pair.	
		oz.	s.	d.
WS <b>3283</b>	Grey rubber gloves, 5in. wide, 8in. long	6	12	0
WS <b>3285</b>	" " " 5½in. " 9in. "	6½	12	0
WS <b>3287</b>	" " " 5½in. " 10in. "	7½	12	0
WS <b>3289</b>	" " gauntlets, 5½in. " 16in. "	11	14	6

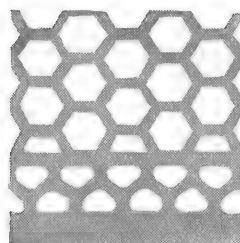
Prices for india-rubber gloves tested to withstand 10,000 volts, and leather-faced gloves, on application.

## RUBBER MATS

India-rubber mats for use in switchboard rooms can be supplied in any size to suit requirements, either solid or punched in various patterns.

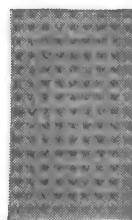
The quality of rubber mats is a matter of the greatest importance, and the following is a report of a test made on a piece of india-rubber from which the G.E.C. mats are made.

Report of test:—A rubber disc was placed between two ½-inch brass ball electrodes and a voltage of sine-form at a frequency of 50 cycles per second was applied between the brass balls. This voltage was applied without shock and maintained at each value given for one minute. Successively higher voltages were applied until a value was reached where a discharge took place over the surface of the rubber sufficient to operate the circuit-breaker in the low-tension circuit of the transformer supplying the high tension voltage to the electrodes. In no case did a discharge take place through the rubber. Where preliminary sparking took place a reticulation of dark lines over the surface of the rubber was shown. The final discharge in addition gave rise to a dark patch at the edge of the disc on each side. With ½-inch rubber a voltage of 74,400 volts was applied before sparking took place, and a voltage of 80,000 was necessary to operate the circuit-breaker. In the case of ¾-inch rubber voltages of 78,000 and 81,000 respectively had to be applied.

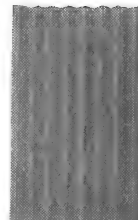


**Punched**

**WS 3299/3301**



**WS 3303**  
**Pyramid**



**WS 3305**  
**Fluted**

Cat. No.	Description.	Approx. weight (¾" thick).	Price per lb.	
			s.	d.
WS <b>3299</b>	Punched rubber mat, as illustrated	25 oz. per square foot	2	9
WS <b>3301</b>	Border for " " " "	11 oz. per lineal foot	2	9
WS <b>3303</b>	Solid rubber mat "Pyramid" "	48 oz. per square foot	2	6
WS <b>3305</b>	" " "Fluted" "	48 oz. per square foot	2	6

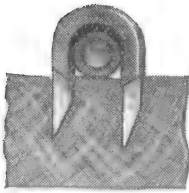
Rubber mats can be supplied in any thickness, but ¾ inch will be sent unless otherwise ordered.

# S.E.C.

## STAPLES

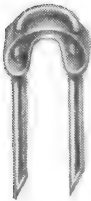
### "FIBROPHOR" INSULATED SADDLE STAPLES

Coppered steel staples insulated with a fibre "arch" of a perfect insulating substance. Supplied in packets containing 100.



WS 3315/23

Length.	For a wire of external diameter.	Approx. weight per 1000	Cat. No.	Price			
				per 100.		per 1000.	
ins.	ins.	lb. oz.		s.	d.	s.	d.
$\frac{1}{2}$	$\frac{3}{32}$	1 3	WS 3315	1	0	7	6
$\frac{3}{8}$	$\frac{1}{8}$	1 7	WS 3317	1	3	10	0
1	$\frac{5}{16}$	4 12	WS 3319	2	0	18	0
$1\frac{1}{8}$	$\frac{3}{8}$	9 13	WS 3321	5	0	45	0
$1\frac{1}{2}$	$\frac{1}{2}$	14 3	WS 3323	5	6	50	0



WS 3333/9

### "ELITE" FIBRE THREADED STAPLES

Tinned steel staples insulated with a fibre shield which is threaded through the staple as illustrated. Supplied in packets containing 100.

$\frac{1}{2}$	$\frac{3}{32}$	1 8	WS 3333	1 0	8 0
$\frac{3}{8}$	$\frac{1}{8}$	1 14	WS 3335	1 1	8 6
$\frac{1}{2}$	$\frac{5}{16}$	2 4	WS 3337	1 2	9 0
$\frac{3}{4}$	$\frac{3}{8}$	2 10	WS 3339	1 3	11 0

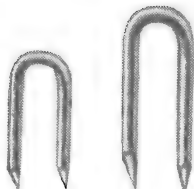


$\frac{1}{4}$ " 13x17  $\frac{1}{2}$ " 13x17  
WS 3351/3

### STEEL STAPLES FOR INDOOR WIRING

Made from best quality steel wire, pointed at ends. With either round or square tops tinned or coppered. Supplied in packets containing 1 lb.

Length.	Size inside prongs.	Approx. quantity to 1 lb.	TINNED.		COPPERED.	
			Cat. No.	Price per lb.	Cat. No.	Price per lb.
ins.	ins.			s. d.		s. d.
$\frac{1}{4}$	$\frac{3}{16}$	1400	WS 3349	1 6	WS 3371	1 4
$\frac{1}{2}$	$\frac{1}{4}$	720	WS 3351	1 3	WS 3373	1 2
$\frac{3}{4}$	$\frac{5}{16}$	590	WS 3353	1 3	WS 3375	1 2
$\frac{1}{2}$	$\frac{11}{32}$	350	WS 3355	1 3	WS 3377	1 2
1	$\frac{1}{2}$	276	WS 3357	1 3	WS 3379	1 2

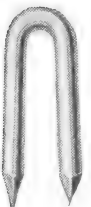


$\frac{1}{4}$ " 13x17  $1\frac{1}{2}$ " 12x15  
WS 3355/7

The above staples can only be supplied in complete packets in the quantities indicated.

### GALVANIZED IRON STAPLES FOR OUTDOOR WIRING

Size and gauge.		Inside width.	Approx. weight per 1000	Cat. No.	Price per cwt.	
ins.	No.				s.	d.
2	× 6	$\frac{3}{8}$	32	WS 3393	67	6
$1\frac{1}{2}$	× 7	$\frac{3}{8}$	22	WS 3395	67	6
$1\frac{1}{2}$	× 8	$\frac{1}{2}$	15	WS 3397	70	0
$1\frac{1}{4}$	× 9	$\frac{3}{8}$	10	WS 3399	70	0
1	× 10	$\frac{1}{2}$	6	WS 3401	72	0



WS 3393/3401

## BRASS SADDLES AND CLIPS FOR CIRCULAR WIRES

Supplied only in packets of 1 gross

Single saddles.

Double Wire saddles.

External diameter of wire.	Cat. No.	Price per gross.*	External diameter of wire.	Cat. No.	Price per gross.*
ins.		s. d.	ins.		s. d.
$\frac{3}{16}$ .187	WS 3411	2 9	$\frac{3}{16}$ .187	WS 3439	6 0
$\frac{1}{4}$ .25	WS 3413	3 0	$\frac{1}{4}$ .25	WS 3441	7 0
$\frac{5}{16}$ .315	WS 3415	3 3	$\frac{5}{16}$ .315	WS 3443	7 6
$\frac{3}{8}$ .375	WS 3417	3 6	$\frac{3}{8}$ .375	WS 3445	8 6
$\frac{7}{16}$ .437	WS 3419	4 3	$\frac{7}{16}$ .437	WS 3446	12 6
$\frac{1}{2}$ .50	WS 3421	4 6	$\frac{1}{2}$ .50	WS 3447	11 0
$\frac{9}{16}$ .63	WS 3423	5 0	$\frac{9}{16}$ .63	WS 3449	12 0
$\frac{5}{8}$ .75	WS 3425	9 0	$\frac{5}{8}$ .75	WS 3451	20 0
$\frac{3}{4}$ .875	WS 3427	10 0	—	—	—
1 1.0	WS 3429	11 0	—	—	—



WS 3411/29



WS 3439/51

### Clips

External diameter of wire.	Cat. No.	Price per gross.*	External diameter of wire.	Cat. No.	Price per gross.*
ins.		s. d.	ins.		s. d.
$\frac{3}{16}$ .187	WS 3461	2 9	$\frac{1}{2}$ .50	WS 3471	4 6
$\frac{1}{4}$ .25	WS 3463	3 0	$\frac{5}{16}$ .63	WS 3473	5 0
$\frac{5}{16}$ .315	WS 3465	3 3	$\frac{3}{8}$ .75	WS 3475	9 0
$\frac{3}{8}$ .375	WS 3467	3 6	$\frac{7}{16}$ .875	WS 3477	10 0
$\frac{7}{16}$ .437	WS 3469	4 3	1 1.0	WS 3479	11 0



WS 3461/79

## FOR FLAT TWIN LEAD COVERED WIRES

Supplied only in packets of 1 gross

Internal dimensions.	Number of flat twin wires accommodated.	Cat. No.	Price per gross.*
ins.			s. d.
$\frac{7}{16} \times \frac{3}{16}$ .437 x .187	1	WS 3489	4 0
$\frac{7}{16} \times \frac{1}{4}$ .437 x .187	1	WS 3490	5 0
$\frac{1}{2} \times \frac{1}{4}$ .812 x .25	2	WS 3491	6 6
$\frac{1}{2} \times \frac{3}{8}$ .406 x .218	1	WS 3492	4 6
$1\frac{1}{4} \times \frac{1}{4}$ 1.25 x .25	3	WS 3493	8 0
$\frac{3}{4} \times \frac{1}{4}$ .578 x .25	1	WS 3494	5 0
$1\frac{1}{8} \times \frac{1}{4}$ 1.667 x .25	4	WS 3495	9 0
$\frac{1}{2} \times \frac{3}{8}$ .531 x .281	1	WS 3496	5 3
$2\frac{1}{8} \times \frac{1}{4}$ 2.062 x .25	5	WS 3497	10 6
$2\frac{1}{2} \times \frac{1}{4}$ 2.562 x .25	6	WS 3499	11 0
$3 \times \frac{1}{4}$ 3.0 x .25	7	WS 3501	12 0
$3\frac{1}{8} \times \frac{1}{4}$ 3.427 x .25	8	WS 3503	13 0



WS 3489



WS 3490/3503



\* Inclusive of pins.

Spare pins for above (in packets containing 2 gross), Cat. No. WS 3505, 6d. per packet (brassed iron).

Zinc fixing clips. For 12½ lb. or 20 lb. circular lead covered wires.

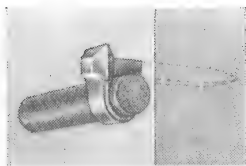
WS 3507

Cat. No. WS 3507. Price 2/6 per gross (supplied only in packets of 1 gross).

For wiring capacity of clips and saddles described above see foot of page 198.

# S.E.C.

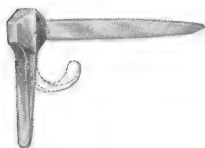
## WALL NAILS (LEAD HEADED)



These nails are extremely useful for supporting telephone and other cables, and although primarily intended for outdoor use, they can also be used for indoor lines. The head of the iron shank projects through the lead and receives the hammer blows.

The flexible lead clip is easily bent round and holds the cables firmly in position. The nails are very strong and have none of the disadvantages of large size staples, such as the points turning in or not driving straight. The lengths are taken from below the head of the nail to the extreme point.

Supplied in boxes of 100 of a size.



WS 3513/21

Length of nail.	Length of clip.	Weight per box of 100.	Cat. No.	Price per box of 100.
ins.	ins.	lb. oz.		s. d.
1	$\frac{3}{4}$	1 12	WS 3513	3 3
$1\frac{1}{4}$	$\frac{7}{8}$	1 13	WS 3515	3 9
$1\frac{1}{2}$	1	2 2	WS 3517	4 6
$1\frac{3}{4}$	$1\frac{1}{4}$	3 9	WS 3519	5 3
2	$1\frac{3}{4}$	3 12	WS 3521	6 0

## CABLE SUSPENDERS FOR SUPPORTING AERIAL LINES

Made from chrome leather which is always flexible, does not rot or become brittle with intense heat or winter frost, and is most suitable for outside use.



WS 3531

Size.	Description.	Approx. weight per gross.	Cat. No.	Price per gross.
		lb. oz.		s. d.
6 $\frac{1}{4}$ in. long $\frac{3}{4}$ in. wide	Leather, with single galvanized iron hook, No. 10 S.W.G., suitable for cables up to $1\frac{1}{4}$ in. diam.	6 10	WS 3531	18 0

*Prices of other sizes on application.*

## WIRING CAPACITY OF SADDLES AND CLIPS

Size of Wire.	Number of wires and cables (lead covered or T.R.S.) accommodated.								
	WS 3411	WS 3413	WS 3489	WS 3490	WS 3491	WS 3492	WS 3493	WS 3494	WS 3496
Single									
1/.044	1	—	—	—	3	2	5	—	—
3/.029	—	1	2	2	3	—	5	—	—
3/.036	—	1	—	—	3	—	4	—	—
7/.029	—	1	—	—	—	—	4	—	—
Flat Twin									
1/.044	—	—	—	—	2	1	3	—	—
3/.029	—	—	1	—	2	1	3	—	—
3/.036	—	—	1	1	—	—	—	—	—
7/.029	—	—	—	—	—	—	—	—	1
7/.036	—	—	—	—	—	—	—	—	1
Flat Three-Core									
1/.044	—	—	1	1	—	—	—	—	—
3/.029	—	—	—	—	—	—	—	1	—
3/.036	—	—	—	—	—	—	—	1	—

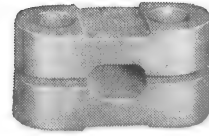
*For clips and saddles specially suitable for attaching conduit, see pages 304-307.*

**S.E.C.**

# FLAT WHITE PORCELAIN CLEATS

## SINGLE GROOVE

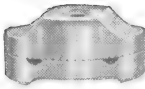
For use with tough rubber sheathed single, twin, or three-core cables.



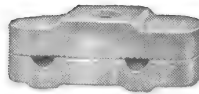
WS 3553

Length.	Height.	Width.	Size of groove.	Suitable screw.	Weight per doz. pairs.	Cat. No.	Price.			
							Per gross.		Per doz.	
ins.	ins.	ins.	ins.	ins. x No.	lb. oz.		£	s.	d.	s. d.
2 $\frac{1}{8}$	1 $\frac{1}{16}$	1	$\frac{1}{16} \times \frac{1}{16}$	1 $\frac{1}{2} \times 12$	1 14	WS 3553	1	0	0	2 0

## TWO GROOVE



WS 3541



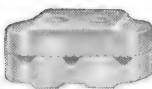
WS 3543



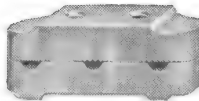
WS 3545

Length.	Height.	Width.	Size of groove.	Suitable screw.	Weight per doz. pairs.	Cat. No.	Price.			
							Per gross.		Per doz.	
ins.	ins.	ins.	ins.	ins. x No.	lb. oz.		£	s.	d.	s. d.
1 $\frac{1}{8}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{3}{16}$	1 $\frac{1}{2} \times 10$	14	WS 3541	12	3		1 3
2 $\frac{1}{8}$	1	1	$\frac{1}{16}$	1 $\frac{1}{2} \times 12$	1 14	WS 3543	1	0	0	2 0
3 $\frac{1}{8}$	1 $\frac{1}{16}$	1 $\frac{1}{16}$	$\frac{9}{16}$	1 $\frac{1}{2} \times 12$	4 1	WS 3545	2	8	6	4 9

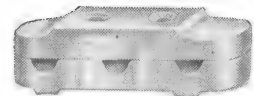
## THREE GROOVE



WS 3547



WS 3549



WS 3551

Length.	Height.	Width.	Size of groove.	Suitable screw.	Weight per doz. pairs.	Cat. No.	Price.			
							Per gross.		Per doz.	
ins.	ins.	ins.	ins.	ins. x No.	lb. oz.		£	s.	d.	s. d.
1 $\frac{1}{8}$	$\frac{7}{8}$	$\frac{7}{8}$	$\frac{3}{16}$	1 $\frac{1}{2} \times 10$	13	WS 3547	12	3		1 3
2 $\frac{1}{8}$	1	1 $\frac{1}{16}$	$\frac{1}{16}$	1 $\frac{1}{2} \times 12$	2 0	WS 3549	1	0	0	2 0
3 $\frac{1}{8}$	1 $\frac{1}{16}$	1 $\frac{1}{16}$	$\frac{9}{16}$	1 $\frac{1}{2} \times 12$	3 11	WS 3551	2	6	6	4 9

NOTE.—WS 3545/53 have two screw holes, WS 3541 and WS 3543 have only one. Countersunk screws should be used with these cleats, as the screw-holes are recessed. Weights and measurements are approximate only, owing to possible variations during firing.

Brown glazed patterns can also be supplied. Prices on application.

For prices of screws see pages 226 to 229. For WITTONITE cable-rack cleats see page 185.

# S.E.C.

## WHITE PORCELAIN CLEATS KNOB AND MINING TYPE



WS 3565



WS 3567



WS 3569/77



Height.	Diameter.	Size of groove.	Suitable screw.	Weight per doz.	Cat. No.	Price.			
						Per gross.		Per doz.	
ins.	ins.	ins.	ins. x No.	lb. oz.		£	s. d.	s. d.	
1 1/2	1 1/2	3/16 x 1/4	2 x 10	1 14	WS 3561*	1	4 6	2	6
1 3/4	1 3/4	3/16 x 1/4	3 x 10	2 8	WS 3563*	1	9 6	3	0
1 7/8	1 7/8	3/16 x 7/16	3 x 12	5 2	WS 3565	2	5 9	4	9
2	2	3/16 x 7/16	3 x 12	5 12	WS 3567	2	10 9	5	3
1 1/2	7/8	1/4	2 x 4	12	WS 3569*	15	3	1	9
1 3/8	1 3/8	1/4	2 x 6	1 2	WS 3571*	18	6	2	0
2 3/8	1 5/8	3/8	3 x 10	3 10	WS 3573	2	2 6	4	6
3	2 1/4	7/8	4 1/2 x 12	7 8	WS 3575	4	5 9	8	6
3 3/8	2 5/8	1 1/8	5 x 12	12 6	WS 3577	6	6 6	12	9

## FLEXIBLE BUTTONS

Height.	Diameter.	Suitable screw.	Weight per doz.	Cat. No.	Price.			
					Per gross.		Per doz.	
ins.	ins.	ins. x No.	oz.		s. d.	d.	s. d.	
1/2	1/2	1 x 6	4	WS 3579*	6	0	9	



WS 3579

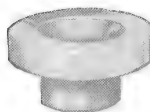
## METER BOARD INSULATORS



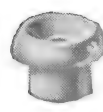
WS 3587



WS 3589



WS 3591



WS 3593

Diameter.	Overall height.	Length of shank.	Diameter of hole.	Weight per doz.	Cat. No.	Price.			
						Per gross.		Per doz.	
ins.	ins.	ins.	ins.	oz.		s. d.	d.	s. d.	
1 1/8	1 1/2	1/8	5/16	5	WS 3587	6	9	9	
1	1 3/4	3/16	5/16	10	WS 3589	10	0	1	0
1 5/8	1 3/4	3/16	5/16	10	WS 3591*	10	0	1	0
1	1 1/8	3/8	1/4	5	WS 3593*	6	9	9	

Weights and measurements are approximate only, owing to possible variations during firing.

\*Foreign Manufacture.

For prices of screws see pages 226 to 229. For WITTONITE cable-rack cleats see page 185.



# WHITE PORCELAIN INSULATORS

## SHACKLE TYPE

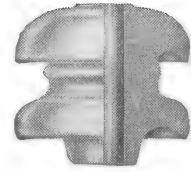


**WS 3603**

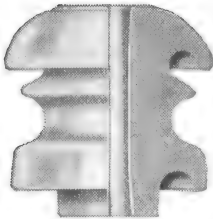


**WS 3611**

For 6,600 volts working pressure.

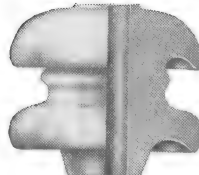


**WS 3605**

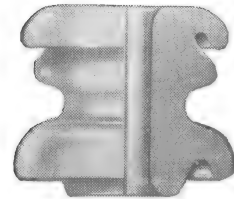


**WS 3609**

For 3,300 volts working pressure.



**WS 3607**



**WS 3608**

As used for standard constructions

Diameter.	Height.	Diameter of hole.	Diameter of groove.	Weight each.	Cat. No.	Price.					
						Per gross.			Per doz.		
ins.	ins.	ins.	ins.	lb. oz.		£	s.	d.	£	s.	d.
2½	2	1½	1¼	8	WS 3603	2	15	6	5	9	
3½	3	2½	1⅞	1 2	WS 3605	5	17	6	11	9	
4	3¾	3	2¼	1 8	WS 3607	9	16	0	19	6	
3 1/16	2 5/8	3 3/4	2 1/16	1 0	WS 3608	6	10	0	13	0	
4 1/2	4 1/2	4 7/8	1	2 14	WS 3609	17	19	3	1	16	0
5 1/8	6	5 7/8	1 1/8	4 6	WS 3611	43	5	3	4	6	6

Weights and measurements are approximate only, owing to possible variations during firing.

Brown glazed patterns can also be supplied. Prices on application.

*For shackle ironwork see page 211.*

# S.E.C.

## WHITE PORCELAIN INSULATORS REELS AND BOBBINS



WS 3617



WS 3619



WS 3621



WS 3623



WS 3631



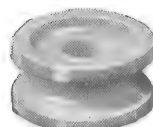
WS 3625



WS 3627



WS 3629



WS 3633



WS 3635



WS 3637

Diameter.	Height.	Diameter of hole.	Diameter of groove.	Weight per doz.	Cat. No.	Price.	
						Per gross.	Per doz.
ins.	ins.	ins.	ins.	lb. oz.		£ s. d.	s. d.
$1\frac{1}{8}$	$1\frac{1}{2}$	$1\frac{1}{8}$	$1\frac{1}{4}$	2	WS 3617*	3 3	6
1	1	$1\frac{1}{8}$	$1\frac{1}{4}$	10	WS 3619*	6 6	9
$1\frac{1}{4}$	$1\frac{1}{8}$	$1\frac{1}{8}$	$1\frac{1}{4}$	1	WS 3621	12 6	1 3
$1\frac{1}{2}$	$1\frac{1}{8}$	$1\frac{1}{8}$	$1\frac{1}{4}$	1	WS 3623	18 6	1 9
$1\frac{1}{2}$	$1\frac{1}{8}$	$1\frac{1}{8}$	$1\frac{1}{4}$	2	WS 3625	19 9	2 0
$1\frac{1}{2}$	$1\frac{1}{8}$	$1\frac{1}{8}$	$1\frac{1}{4}$	3	WS 3627	1 9 3	3 0
2	$1\frac{1}{8}$	$1\frac{1}{8}$	$1\frac{1}{4}$	2	WS 3629*	1 6 0	2 8
$1\frac{7}{8}$	$1\frac{1}{8}$	$1\frac{1}{8}$	$1\frac{1}{4}$	15	WS 3631	10 0	1 0
2	1	$1\frac{1}{8}$	$1\frac{1}{4}$	1	WS 3633	1 0 6	2 0
$2\frac{1}{2}$	$3\frac{1}{8}$	$2\frac{1}{8}$	3	6	WS 3635	4 16 3	9 9
2	4	$2\frac{1}{8}$	3	4	WS 3637	3 15 0	7 6

\*Foreign Manufacture.

## WIRELESS INSULATORS



WS 3647



WS 3651



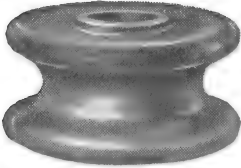
WS 3653

Type.	Length.	Breadth.	Weight each.	Cat. No.	Price.	
					Per gross.	Per doz.
Egg, white glazed	ins. $1\frac{1}{2}$	ins. $1\frac{1}{8}$	lb. oz. $\frac{1}{4}$	WS 3647	£ s. d. 10 9	£ s. d. 1 0
Barrel, brown glazed	$2\frac{3}{8}$	$1\frac{1}{8}$	3	WS 3651	2 0 9	4 0
Barrel, brown	$3\frac{1}{8}$	$2\frac{1}{4}$	1 6 $\frac{1}{2}$	WS 3652	14 3 6	1 8 3
Shell, green glazed	$2\frac{7}{8}$	$2\frac{1}{8}$	4	WS 3653	2 14 6	5 6

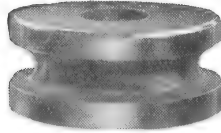
Weights and measurements are approximate only, owing to possible variations during firing.  
For WITTONITE meter board and reel insulators see page 186.

# INSULATORS

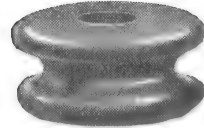
## BROWN STONEWARE REELS, ETC.



**WS 3663**



**WS 3665**



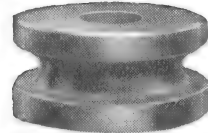
**WS 3667**



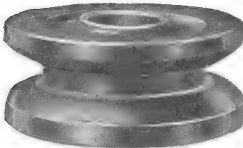
**WS 3669**



**WS 3671**



**WS 3673**



**WS 3675**



**WS 3677**



**WS 3679**

Height.	Diameter overall.	Diameter of hole.	Size of groove.	Weight each.	Cat. No.	Price.			
						Per gross.		Per doz.	
ins.	ins.	ins.	ins.	oz.		£	s. d.	s. d.	
2	2½	¾	⅝	8	WS 3663	3	14 3	7	6
1½	2¼	¾	⅜	5	WS 3665	2	7 3	4	9
1¼	2¼	¾	⅜	5	WS 3667	2	7 3	4	9
1½	1½	½	¼	3	WS 3669	1	10 6	3	0
1½	7⁄8	¼	3⁄16	1	WS 3671	1	3 9	2	6
1½	2¼	¾	½	9	WS 3673	3	14 3	7	6
1½	2½	¾	½	8½	WS 3675	4	1 0	8	3
2½	2½	¾	1¼	10	WS 3677	5	8 0	11	6
2½	2½	¾	¾	12	WS 3679	5	1 3	10	0

Weights and measurements are approximate only, owing to possible variations during firing.

# S.E.C.

## WHITE PORCELAIN LEADING-IN TUBES



WS 3689



WS 3691/97



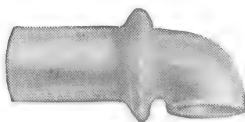
WS 3699



WS 3701



WS 3703/5



WS 3707



WS 3709

Length.	Diam. of bore.	Overall diameter.	Weight each.	Cat. No.	Price.	
					Per gross.	Per doz.
ins.	ins.	ins.	lb. oz.		£ s. d.	£ s. d.
2 <sup>7</sup> / <sub>8</sub>	<sup>5</sup> / <sub>16</sub>	<sup>1</sup> / <sub>8</sub>	1	WS 3689	1 5 6	2 6
9	<sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>8</sub>	8	WS 3691	6 8 3	13 0
12	1	1 <sup>1</sup> / <sub>8</sub>	1 0	WS 3693	16 4 0	1 12 6
15	1	1 <sup>1</sup> / <sub>8</sub>	1 12	WS 3695	20 5 0	2 0 6
18	1	1 <sup>1</sup> / <sub>8</sub>	2 0	WS 3697	25 13 0	2 11 6
9	<sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>8</sub>	9	WS 3699	10 16 0	1 1 6
10	1 <sup>1</sup> / <sub>2</sub>	2	1 6	WS 3701	12 12 0	1 5 3
2 <sup>5</sup> / <sub>16</sub>	<sup>1</sup> / <sub>8</sub>	<sup>9</sup> / <sub>16</sub>	1	WS 3703	1 14 6	3 6
10 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>2</sub>	12	WS 3705	12 1 9	1 4 3
4 <sup>1</sup> / <sub>8</sub>	1	1 <sup>1</sup> / <sub>8</sub>	5	WS 3707	5 7 0	11 9
7	1	1 <sup>1</sup> / <sub>8</sub>	8	WS 3709	7 16 0	15 9

Cat. Nos. WS 3691/99 are manufactured with longitudinal corrugations in the bore so that any moisture that may enter the tube shall have the minimum effect on the insulation of the cable. In addition, these tubes are provided with serrations around the outer surface in order that cement shall grip the tube firmly.

Tubes with a flange are measured from under the collar, and bent tubes are measured overall.

Weights and measurements are approximate only, owing to possible variations during firing.

## WHITE PORCELAIN LINE INSULATORS

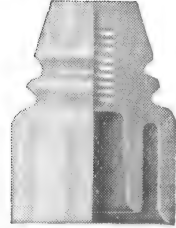


WS 3719

WS 3719  
"Sinclair" pattern.

$\frac{1}{2}$ " diameter P.O. screw thread. Overall height, 4".  
Overall diameter,  $2\frac{1}{4}$ ". Weight, 13 oz.

Price per gross .. .. £4 15s. 0d.  
Price per doz. .. .. 9s. 8d.



WS 3725

WS 3721

"Cordeau" or Post Office pattern.

$\frac{1}{2}$ " diameter P.O. screw thread. Overall height,  $4\frac{1}{8}$ ".  
Overall diameter,  $3\frac{1}{8}$ ". Weight, 1 lb. 8 oz.

Price per gross .. .. £7 3s. 6d.  
Price per doz. .. .. 14s. 4d.



WS 3721

WS 3723

"Queen" or small Post Office pattern.

$\frac{1}{2}$ " diameter P.O. screw thread. Overall height,  $3\frac{1}{2}$ ".  
Overall diameter,  $2\frac{1}{8}$ ". Weight, 10 oz.

Price per gross .. .. £4 5s. 9d.  
Price per doz. .. .. 8s. 6d.



WS 3723

WS 3725

P.O. Terminal pattern.

$\frac{1}{2}$ " diameter P.O. screw thread. Overall height,  $4\frac{1}{4}$ ".  
Overall diameter,  $3\frac{1}{4}$ ". Weight, 1 lb. 11 oz.

Price per gross .. .. £11 9s. 5d.  
Price per doz. .. .. £1 2s. 10d.



WS 3727

WS 3727

P.O. double shed, double groove pattern.

$\frac{1}{2}$ " diameter P.O. screw thread.  
Overall height,  $4\frac{1}{8}$ ". Overall diameter,  $2\frac{1}{8}$ ".  
Weight, 1 lb. 8 oz.

Price per gross .. .. £7 3s. 6d.  
Price per doz. .. .. 14s. 4d.



WS 3727

**Brown glazed pattern** can also be supplied. Prices on application.



WS 3776

## LINE INSULATORS LOW TENSION

Cat. No.	Overall height.	Overall diameter.	Top groove.	Side groove.	Cordeau thread.	Weight each.	Price				
							Per gross.		Per doz.		
	ins.	ins.	ins.	ins.	ins.	oz.	£	s.	d.	s.	d.
WS <b>3775</b>	2½	2	—	⅝	½	4	<b>2</b>	<b>7</b>	<b>3</b>	<b>4</b>	<b>9</b>
WS <b>3776</b>	3⅛	2½	⅞	⅞	¾	14	<b>5</b>	<b>13</b>	<b>9</b>	<b>11</b>	<b>3</b>

Weights and measurements are approximate only, owing to possible variations during firing.  
For suitable bolts see pages 209 and 210. For prices of insulators complete with bolts see page 216.

# S.E.C.

## WHITE PORCELAIN LINE INSULATORS

### WITH TOP GROOVE

#### SUITABLE FOR LARGE CABLES



WS 3737

**WS 3737**  
Single shed insulator with  $\frac{1}{2}$ " top groove.  
Overall height  $2\frac{1}{2}$ ". Overall diameter,  $2\frac{1}{2}$ ".  
Screwed for  $\frac{3}{8}$ " diameter bolt. Weight 7 oz.  
Price per gross £4 11s. 6d.; per doz. 9s. 4d.



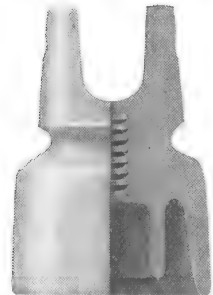
WS 3739

**WS 3739**  
Double shed insulator with  $\frac{1}{2}$ " top groove.  
Overall length  $3\frac{1}{2}$ ". Overall diameter  $2\frac{1}{2}$ ".  
Screwed for  $\frac{3}{8}$ " diameter bolt. Weight 12 oz.  
Price per gross £8 3s. 8d.; per doz. 16s. 6d.



WS 3741

**WS 3741**  
Double shed insulator with  $\frac{1}{2}$ " top groove.  
Overall height  $3\frac{1}{2}$ ". Overall diameter  $2\frac{1}{2}$ ".  
Screwed for  $\frac{3}{8}$ " diameter bolt. Weight 1 lb.  
Price per gross £4 15s. 6d.; per doz. 9s. 6d.

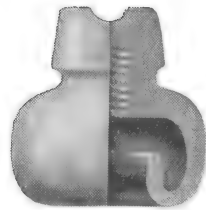


WS 3743

**WS 3743**  
Double shed insulator with 1" top groove.  
Overall height  $4\frac{1}{2}$ ". Overall diameter  $3\frac{1}{2}$ ".  
Screwed for  $\frac{3}{8}$ " diameter bolt. Weight 1 lb. 7 oz.  
Price per gross £12 9s. 3d.; per doz. £1 5s. 0d.

**WS 3742**  
Double shed insulator with  $\frac{1}{2}$ " top groove.  
Overall height  $3\frac{1}{2}$ ". Overall diameter 3".  
Screwed for  $\frac{3}{8}$ " diameter bolt. Weight 1 lb.  
Price per gross £7 7s. 8d.; per doz. 14s. 9d.

**WS 3744**  
Double shed insulator with  $\frac{1}{2}$ " top groove.  
Overall height 4". Overall diameter  $3\frac{1}{2}$ ".  
Screwed for  $\frac{3}{8}$ " diameter bolt. Weight 1 lb. 10 oz.  
Price per gross £7 7s. 8d.; per doz. 14s. 9d.



WS 3745

**WS 3745**  
Single shed "Fluid" or "Oil" insulator with  $\frac{1}{2}$ " top groove.  
Overall length 4". Overall diameter 4".  
Screwed for  $\frac{3}{8}$ " diameter bolt. Weight 1 lb. 7 oz.  
Price per gross £17 19s. 0d.; per doz. £1 16s. 0d.

Weights and measurements are approximate only, owing to possible variations during firing. **Brown glazed patterns** can also be supplied. Prices on application.  
For suitable bolts see pages 209 and 210. For prices of insulators complete with bolts see page 216.

## PORCELAIN INSULATORS FOR HIGH TENSION

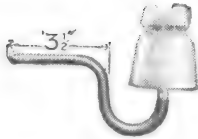
A comprehensive range of insulators suitable for H.T. installations can be supplied to specified requirements.

In addition to standard lines,\* insulators can be made to meet the demands of different localities provided such factors as maximum working voltage, amount of power to be transmitted, length of line, size of conductor and climatic conditions are clearly defined.

The services of a qualified staff are always available to advise and help in the solution of problems met with in schemes for overhead line equipment.

\* Sectional Catalogues WO. 1 Overhead Line Fittings, and WO. 2 Overhead Line Equipment, will be forwarded on request.

## INSULATORS WITH CEMENTED BOLTS



WS 3755

WS 3755  
With  $\frac{1}{8}$ " diameter bolt. Top groove  $\frac{1}{8}$ ".  
Side groove  $\frac{1}{8}$ ". Overall height of  
porcelain  $2\frac{3}{8}$ ". Diameter of porcelain  $2\frac{1}{8}$ ".  
Weight 12 oz.

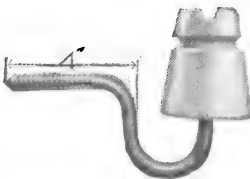
Price per gross .. £7 17s. 6d.  
Price per doz. .. 15s. 9d.



WS 3757

WS 3757  
With  $\frac{1}{8}$ " diameter bolt. Side groove  $\frac{1}{8}$ ".  
Overall height of porcelain 2". Diameter  
of porcelain  $1\frac{1}{2}$ ". Weight 8 oz.

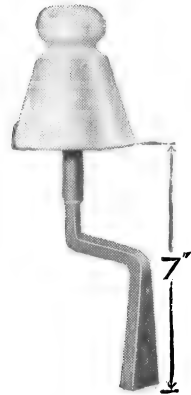
Price per gross .. £4 18s. 0d.  
Price per doz. .. 10s. 0d.



WS 3759

WS 3759  
With  $\frac{1}{8}$ " diameter bolt. Top groove  $\frac{1}{8}$ ".  
Side groove  $\frac{1}{8}$ ". Overall height of  
porcelain  $3\frac{1}{2}$ ". Diameter of porcelain 3".  
Weight 1 lb. 6 oz.

Price per gross .. £10 11s. 6d.  
Price per doz. .. £1 1s. 3d.



WS 3761

WS 3761  
Wall insulator, top groove  $\frac{1}{8}$ ". Side  
groove  $\frac{1}{8}$ ". Overall height of porcelain  
 $3\frac{1}{2}$ ". Diameter of porcelain  $2\frac{1}{2}$ ". Weight  
1 lb. 5 oz.

Price per gross .. £18 0s. 0d.  
Price per doz. .. £1 12s. 0d.

## CAPTIVE INSULATORS

(Patent No. 360708.)

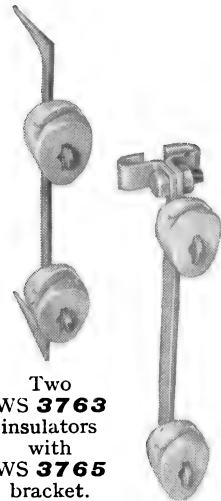
This captive insulator fills a special need for the support of signal wires in mines and also supplies a ready means of supporting temporary lighting or other wires where it is not convenient or time does not allow of binding to be done. As may be seen, all that is required is to deflect the wire from its natural line, drop it into the diagonal groove in the top of the insulator, and when it arrives at the bottom of the groove it resumes its original line automatically and is held secure from dropping off.

This is of great importance in a mine where bare wire signalling is done, as very frequently owing to carelessness the binding of the insulators is not replaced after repairs, and a slight jerk tends to throw the top wire off, thus causing a short circuit.

The patent bracket allows the insulators to be readily removed when required without breakage.

The patent insulators are so designed that they can be secured both by the special bracket or by nail or coach screw.

This construction has also been adapted for fixing to girders by means of a special clip type bracket, Cat. No. WS 3767. When ordering, the size of girder must be stated.



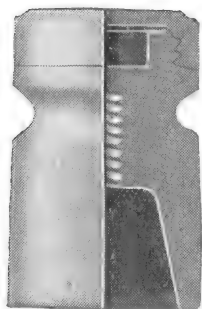
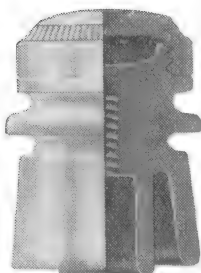
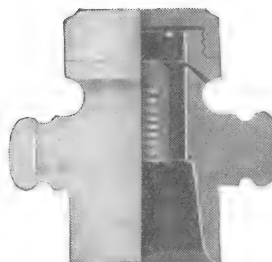
Two  
WS 3763  
insulators  
with  
WS 3765  
bracket.

Two  
WS 3763  
insulators  
with  
WS 3767  
bracket.

Cat. No.	Description.	Price.	
		Per gross.	Per doz.
		£ s. d.	s. d.
WS 3763	Patent insulator suitable for conductors up to No. 8 S.W.G. copper ..	1 11 6	3 3
WS 3765	Patent bracket ..	3 7 6	6 9
WS 3767	Clip type bracket ..	7 0 0	14 0

**S.E.C.**

## WHITE PORCELAIN POTHEAD INSULATORS

**WS 3785/87****WS 3789/91****WS 3793/95**

Pothead insulators form the cheapest, neatest, and most efficient method of leading telephone or telegraph wires into a building, or of terminating them on a distributing pole, when used with lead covered, paper insulated cable. Among the advantages resulting from their use are : (a) No wires or tail pieces liable to deterioration of insulation. (b) No unsightly open vertical wires. (c) No lead or rubber joints. (d) No ugly loose ends. (e) No highly skilled labour needed.

With common battery telephone systems, open wire distribution is a source of great trouble owing to low insulation faults, especially during wet or foggy weather. Much of this trouble is due to the failure of rubber, or gutta-percha, covered leads, and can be completely avoided by the use of lead covered insulated wires and pothead insulators.

Pothead insulators are used in all the principal telephone countries in the world and have been adopted by the British Post Office and leading railway companies.

Description.	Thread.	Weight each.	Cat. No.	Price					
				Per gross.			Per doz.		
	ins.	lb. oz.		£	s.	d.	£	s.	d.
Single shed .. ..	1 1/2	1 9	WS <b>3785</b>	10	16	0	1	1	9
Ditto .. ..	1 1/2	1 9	WS <b>3787</b>	16	7	0	1	12	9
Double shed .. ..	1 1/2	1 14	WS <b>3789</b>	21	5	0	2	2	6
Ditto .. ..	1 1/2	1 14	WS <b>3791</b>	21	5	0	2	2	6
Single shed with two spur knobs .. ..	1 1/2	2 0	WS <b>3793</b>	23	7	0	2	6	9
Ditto .. .. ditto	1 1/2	2 0	WS <b>3795</b>	28	11	6	2	17	3
Ditto, with one spur knob ..	1 1/2	1 9	WS <b>3797</b>	14	10	0	1	9	0

Plastic Compound is recommended for use with the above insulators to ensure a thoroughly weatherproof filling. It does not require heating and remains in a plastic condition. Supplied in 1 lb. slabs.

Cat. No. WS **3800**, 2s. 3d. per lb.

Weights and measurements are approximate only, owing to possible variations during firing.

Brown glazed patterns can also be supplied. Prices on application.

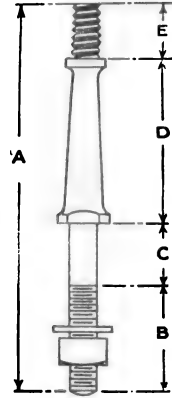
*For suitable bolts see pages 209 and 210. For prices of above insulators complete with bolts see page 216*



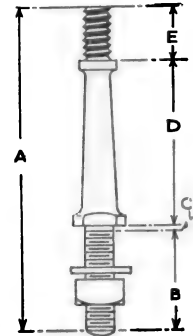
## GALVANIZED INSULATOR BOLTS

Insulator bolts are hot galvanized with pure spelter. This gives a coating of spelter seven times as heavy as that deposited by the best electrical process and will stand the tests imposed by the G.P.O. Telegraph Department. The dimensions are in conformity with present G.P.O. practice and suit all standard requirements. The threads of the bolts are cut after galvanizing; where threads are required galvanized, it should be definitely stated when ordering.

India-rubber or waxed felt washers are supplied for use on the top collar of insulator bolts, but rubber washers will be supplied unless otherwise specified. The price of the insulator bolt includes the necessary rubber washer.

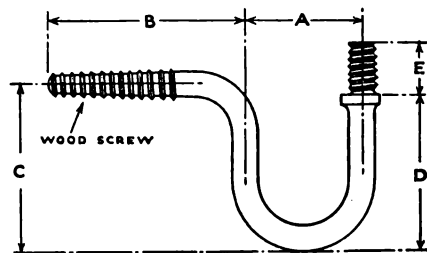


WS 3805/7/9



WS 3806/8/10

Cat. No.	Diam.	Cordeau thread.	a	b	c	d	e	Weight each.	Price.					
									Per gross.			Per doz.		
	ins.	ins.	ins.	ins.	ins.	ins.	ins.	lb. oz.	£	s.	d.	s.	d.	
WS <b>3805</b>	$\frac{5}{8}$	$\frac{5}{8}$	$8\frac{1}{8}$	} $2\frac{1}{2}$	$1\frac{1}{2}$ }	3	$1\frac{3}{8}$	15 $\frac{1}{2}$	<b>4</b>	<b>12</b>	<b>0</b>	<b>9</b>	<b>3</b>	
WS <b>3807</b>	$\frac{3}{4}$	$\frac{3}{4}$	$9\frac{7}{8}$			4	$1\frac{1}{8}$	1 2	<b>5</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>0</b>	
WS <b>3809</b>	$\frac{1}{2}$	$\frac{1}{2}$	$7\frac{5}{8}$			$2\frac{1}{2}$	$1\frac{1}{8}$	8	<b>3</b>	<b>15</b>	<b>9</b>	<b>7</b>	<b>9</b>	
WS <b>3806</b>	$\frac{5}{8}$	$\frac{5}{8}$	$6\frac{11}{16}$	} $2\frac{3}{8}$	$\frac{1}{8}$ }	3	$1\frac{3}{8}$	13 $\frac{1}{2}$	<b>4</b>	<b>6</b>	<b>4</b>	<b>8</b>	<b>9</b>	
WS <b>3808</b>	$\frac{3}{4}$	$\frac{3}{4}$	$7\frac{11}{16}$			4	$1\frac{3}{16}$	1 0	<b>4</b>	<b>14</b>	<b>4</b>	<b>9</b>	<b>6</b>	
WS <b>3810</b>	$\frac{1}{2}$	$\frac{1}{2}$	$6\frac{1}{8}$			$2\frac{1}{2}$	$1\frac{1}{8}$	7	<b>3</b>	<b>12</b>	<b>0</b>	<b>7</b>	<b>3</b>	

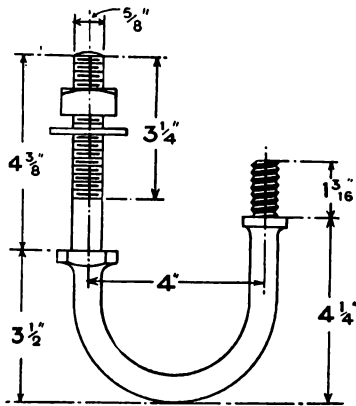


WS 3817/9/21

Cat. No.	Diam.	Cordeau thread.	a	b	c	d	e	Weight each.	Price.				
									Per gross.		Per doz.		
	ins.	ins.	ins.	ins.	ins.	ins.	ins.	lb. oz.	£	s.	d.	s.	d.
WS <b>3821</b>	$\frac{1}{2}$	$\frac{1}{2}$	$2\frac{1}{2}$	$3\frac{1}{2}$	$3\frac{3}{4}$	$3\frac{1}{2}$	$1\frac{1}{8}$	10	<b>4</b>	<b>12</b>	<b>0</b>	<b>9</b>	<b>3</b>
WS <b>3817</b>	$\frac{3}{8}$	$\frac{3}{8}$	$2\frac{1}{4}$	$4\frac{1}{4}$	4	$3\frac{1}{4}$	$1\frac{3}{8}$	1 1	<b>5</b>	<b>11</b>	<b>6</b>	<b>11</b>	<b>3</b>
WS <b>3819</b>	$\frac{5}{8}$	$\frac{5}{8}$	$3\frac{1}{2}$	$5\frac{1}{4}$	$4\frac{1}{2}$	$4\frac{1}{4}$	$1\frac{3}{8}$	1 6	<b>6</b>	<b>17</b>	<b>9</b>	<b>13</b>	<b>9</b>

# S.E.C.

## GALVANIZED INSULATOR BOLTS

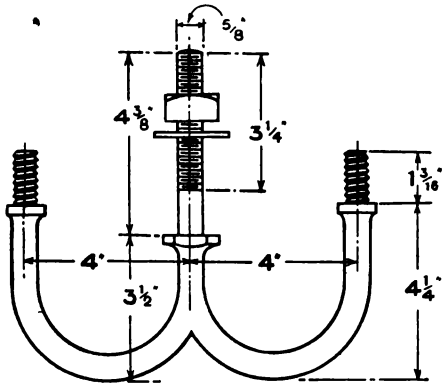


**WS 3811**

Single "J" bolt, with  $\frac{5}{8}$ " diameter Cordeau thread.

Weight 1 lb. 8 oz.

Price per gross .. £6 14s. 6d.  
Price per doz. .. 13s. 6d.

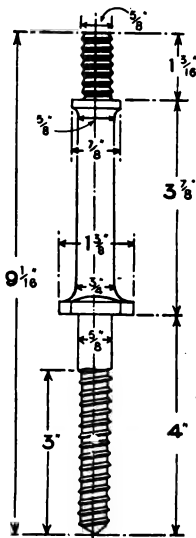


**WS 3815**

Double "J" bolt, with  $\frac{5}{8}$ " diameter Cordeau thread.

Weight 2 lb. 6 oz.

Price per gross .. £13 19s. 6d.  
Price per doz. .. £1 8s. 0d.

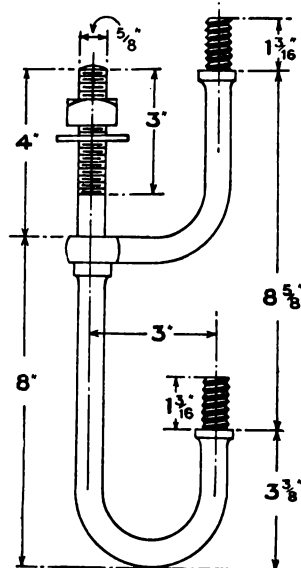


**WS 3813**

Straight coach screw bolt, with  $\frac{5}{8}$ " diameter Cordeau thread, and coach screw thread under centre collar.

Weight 14 1/2 oz.

Price per gross .. £4 15s. 3d.  
Price per doz. .. 9s. 9d.



**WS 3815/vertical.**

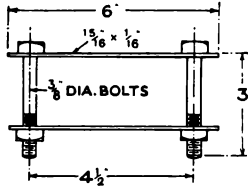
Double "J" bolt, with  $\frac{5}{8}$ " diameter Cordeau thread.

Weight 2 lb. 8 oz.

Price per gross .. £13 19s. 6d.  
Price per doz. .. £1 8s. 0d.

# GALVANIZED INSULATOR IRONWORK

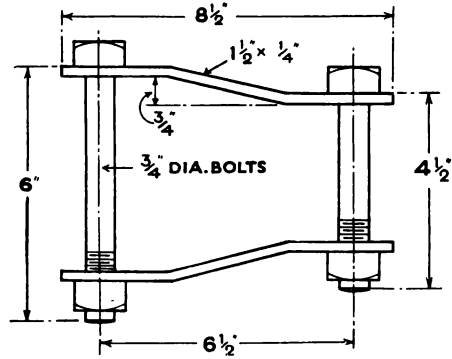
## SHACKLE IRONWORK



**WS 3831**

For use with porcelain WS 3603  
Weight 8 oz.

Price per gross .. £3 12s. 0d.  
Price per doz. .. 7s. 3d.

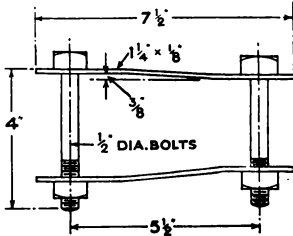


**WS 3849**

For use with shackle insulator WS 3609

Weight 4 lb. 7 oz.

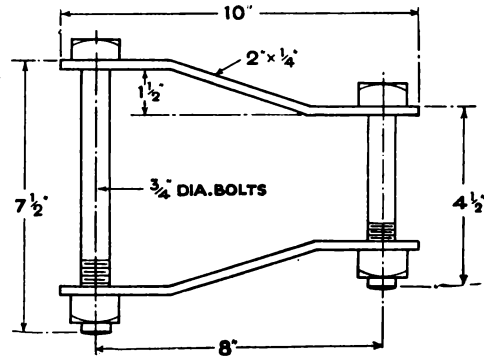
Price per gross £15 2s. 0d.  
Price per doz. £1 10s. 3d.



**WS 3833**

For use with porcelain WS 3605  
Weight 1 lb. 6 oz.

Price per gross .. £6 6s. 6d.  
Price per doz. .. 12s. 9d.

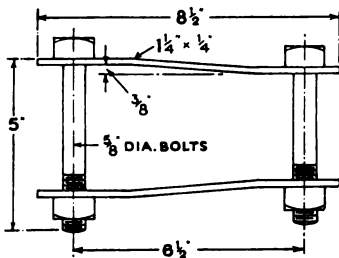


**WS 3851**

For use with shackle insulator WS 3611

Weight 5 lb. 12 oz.

Price per gross £19 12s. 0d.  
Price per doz. £1 19s. 3d.



**WS 3835**

For use with porcelain WS 3607  
Weight 4 lb.

Price per gross .. £13 7s. 9d.  
Price per doz. .. £1 6s. 9d.

One set of shackle ironwork is taken as two straps and two bolts.

Double sets of shackle ironwork, i.e., four straps and three bolts, can be supplied pro rata.

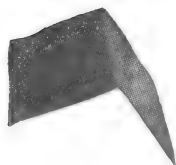
*For porcelain shackle insulators see page 201.*

# S.E.C.

## GALVANIZED INSULATOR IRONWORK

### POLE ROOFS

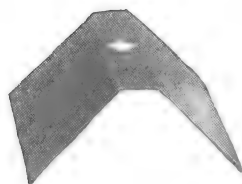
Pole roofs are made of galvanized wrought iron each face measuring 8" × 5" by 17 B.W.G.



WS **3837** Uncut.

Weight 1 lb.

Price per gross	£8 2s. 0d.
Price per doz.	16s. 3d.



WS **3839** Cut.

Weight 1 lb. 6 oz.

Price per gross	..	£10 2s. 6d.
Price per doz.	..	£1 0s. 3d.

### POLE ARM BOLTS

For fixing wood arms to wood poles.



WS **3841** 8" × ½"

Weight 1 lb. 3 oz.

Price per gross	£6 15s. 0d.
Price per doz.	13s. 6d.

WS **3843** 8" × ⅝"

Weight 1 lb. 8 oz.

Price per gross	..	£7 8s. 6d.
Price per doz.	..	15s. 0d.

### POLE BRACKETS

For fixing to round wooden poles.



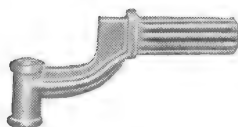
WS **3845** Projection 3½"

Weight 1 lb.

Price per gross	..	£6 1s. 6d.
Price per doz.	..	12s. 3d.

Price for above with flat back upon application.

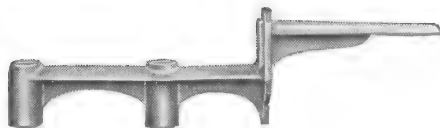
### MALLEABLE CAST IRON WALL-BRACKETS



WS **3855** Projection 3½"

Weight 1 lb. 3 oz.

Price per doz.	£1 2s. 6d.
----------------	------------



WS **3857** Projection 3½"—5½"

Weight 1 lb. 8 oz.

Price per doz.	£2 9s. 6d.
----------------	------------

# GALVANIZED INSULATOR IRONWORK

## EYE SPIKES.



**WS 3858**

Hole  $\frac{7}{16}$ " diameter. Shank  $\frac{3}{8}$ " square.  
Length to centre of eye  $6\frac{1}{2}$ ". Overall  
length  $7\frac{1}{2}$ ". Weight 6 oz.  
Price per doz. .. **12s. 9d.**

**WS 3859**

Hole  $\frac{11}{16}$ " diameter. Shank  $\frac{1}{2}$ " square.  
Length to centre of eye  $7\frac{1}{2}$ ". Overall  
length 9". Weight 1 lb.  
Price per doz. .. **15s. 9d.**

## WALL HOOKS.



**WS 3860**

Overall length 12". Section  $1\frac{1}{4}$ "  $\times$   $\frac{1}{8}$ "  
flat. Eye of hook  $\frac{1}{4}$ " diameter. Holes  $\frac{1}{2}$ "  
diameter. Weight 1 lb. 6 oz.  
Price per doz. .. **£1 13s. 6d.**

## MALLEABLE CAST IRON SADDLE BRACKETS.

### ANGLE PLATES.

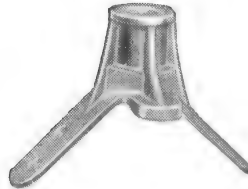


**WS 3861**

Weight 5 oz.

Price per doz. ..

**6s. 3d.**



**WS 3863**

Weight 1 lb. 6 oz.

Price per doz. .. **16s. 6d.**

## STAY SWIVELS.



**WS 3864/9**

Cat. No.	Diameter.	Length of screw.	Weight.	Price per dozen.
	ins.	ins.	lb. oz.	£ s. d.
WS <b>3864</b>	$\frac{3}{8}$	6	13	<b>1 16 0</b>
WS <b>3865</b>	$\frac{1}{2}$	14	2 8	<b>2 18 6</b>
WS <b>3867</b>	$\frac{5}{8}$	14	4 10	<b>4 10 0</b>
WS <b>3869</b>	$\frac{3}{4}$	14	7 10	<b>6 9 6</b>

Prices of stay swivels with hook at one end, on application.

## STAY RODS.

Cat. No.	Dimensions.	Weight.	Price per dozen.
	ft. ins.	lb. oz.	£ s. d.
WS <b>3871</b>	6 $\times$ $\frac{1}{4}$	19 4	<b>5 12 0</b>
WS <b>3872</b>	8 $\times$ $\frac{1}{4}$	27 0	<b>7 13 0</b>
WS <b>3873</b>	8 $\times$ $\frac{3}{4}$	22 8	<b>7 1 3</b>
WS <b>3874</b>	8 $\times$ 1	32 0	<b>9 0 0</b>
WS <b>3875</b>	9 $\times$ $\frac{1}{4}$	23 12	<b>7 10 6</b>

Length of bow 16". Size of plates 6"  $\times$  6"  $\times$   $\frac{1}{4}$ ".

**WS 3871/75**



## CHIMNEY BRACKETS

### FLAT BACKED BRACKETS



WS 3885

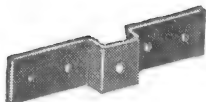
#### WS 3885

Length of arm 6". Projection 5".

Section  $1\frac{1}{2}" \times \frac{1}{4}"$ .

Weight 2 lb. 9 oz.

Price per doz.	Blacked .. ..	£1 7s. 0d.
„	Galvanized .. ..	£1 16s. 3d.



WS 3886

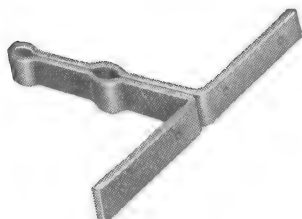
#### WS 3886

Four fixing holes. Length 10". Section  $2" \times \frac{1}{4}"$ .

Recess (inside)  $1\frac{1}{2}" \times \frac{1}{8}"$ . Centre hole  $\frac{1}{8}"$  diameter.

Weight 1 lb. 10 oz.

Price per doz.	Blacked .. ..	10s. 3d.
„	Galvanized .. ..	12s. 0d.



WS 3887

#### WS 3887

Length of arm 6". Projection  $5"-5\frac{1}{2}"$ .

Section  $1\frac{1}{2}" \times \frac{1}{4}"$ .

Weight 3 lb. 12 oz.

Price per doz.	Blacked .. ..	£1 14s. 6d.
„	Galvanized .. ..	£1 18s. 9d.

#### WS 3888

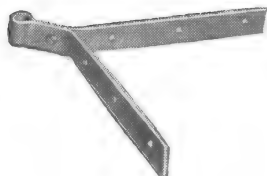
As WS 3886, but with six fixing holes. Length

$1' 2\frac{1}{2}"$ . Section  $2" \times \frac{1}{4}"$ . Recess (inside)  $2\frac{1}{4}" \times 1"$ .

Centre hole  $\frac{1}{8}"$  diameter. Weight 2 lb. 5 oz.

Price per doz.	Blacked .. ..	13s. 6d.
„	Galvanized .. ..	15s. 9d.

### CORNER BRACKETS



WS 3889/91

#### WS 3889 12" arm.

Projection 4". Section  $1\frac{1}{2}" \times \frac{1}{4}"$ .

Weight 3 lb. 4 oz.

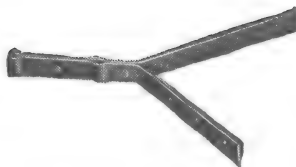
Price per doz.	Blacked .. ..	£1 9s. 3d.
„	Galvanized .. ..	£1 17s. 6d.

#### WS 3891 20" arm

Projection 4". Section  $1\frac{1}{2}" \times \frac{1}{4}"$ .

Weight 4 lb. 14 oz.

Price per doz.	Blacked .. ..	£2 5s. 6d.
„	Galvanized .. ..	£2 19s. 9d.



WS 3893/5

#### WS 3893 12" arm.

Projection  $4"-8"$ . Section  $1\frac{1}{2}" \times \frac{1}{4}"$ .

Weight 5 lb. 4 oz.

Price per doz.	Blacked .. ..	£2 7s. 6d.
„	Galvanized .. ..	£3 2s. 6d.

#### WS 3895 20" arm.

Projection  $4"-8"$ . Section  $1\frac{1}{2}" \times \frac{1}{4}"$ .

Weight 7 lb. 12 oz.

Price per doz.	Blacked .. ..	£3 0s. 0d.
„	Galvanized .. ..	£3 17s. 6d.



WS 3890

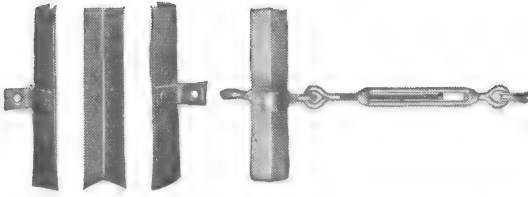
#### WS 3890 6" arm.

Section  $2" \times \frac{1}{4}"$ . Recess (inside)  $1\frac{1}{2}" \times 1\frac{1}{2}"$ .

Centre hole  $\frac{1}{8}"$  diameter. Weight 2 lb. 6 oz.

Price per doz.	Blacked .. ..	15s. 9d.
„	Galvanized .. ..	18s. 0d.

## CHIMNEY EQUIPMENT



**WS 3877**

Each set of chimney equipment comprises :—

Three angle plates (galvanized).

One corner bracket (galvanized), with bracket suitable for taking  $\frac{1}{2}$ " diameter spindle.

One  $\frac{1}{2}$ " diameter galvanised strainer.

Price per dozen sets (exclusive of wire) .. £4 16s. 0d.

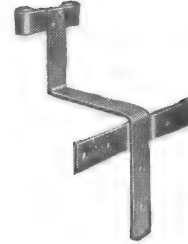
**WS 3879**

As WS 3877, but with bracket arranged for two  $\frac{1}{2}$ " diameter spindles.

Price per dozen sets (exclusive of wire) .. £5 14s. 0d.

*For suitable straining wire see page 158.*

**WS 3892**



### **GALVANIZED EAVES BRACKETS**

**WS 3881**

With 7" projection.

Price per dozen .. .. £1 13s. 3d.

**WS 3882**

With 10" projection.

Price per dozen .. .. £1 14s. 3d.

**WS 3883**

With 7" projection

Price per dozen .. .. £1 11s. 6d.

**WS 3884**

With 10" projection.

Price per dozen .. .. £1 12s. 9d.

**WS 3881/2**  
Long pattern.



**WS 3883/4**  
Short pattern.

### **DOUBLE "D" IRONS\***

**WS 3892**

Overall dimensions 6" x 4 $\frac{1}{2}$ ". Section 2" x  $\frac{1}{2}$ ".

Holes  $\frac{1}{2}$ " diameter. Weight 1 lb. 14 oz.

Price per dozen Blacked .. .. 13s. 6d.

„ Galvanized .. .. 15s. 9d.

### **POLE STEPS (Galvanized)**

**WS 3905**

Standard P.O. pattern. Rasp roughed.

Weight 1 lb. 4 oz.

Price per dozen .. .. 13s. 9d.

**WS 3905**



### **FLAT EYE SPIKES**

**WS 3847**

Galvanized flat eye spikes, 8" long x 1 $\frac{1}{2}$ " x  $\frac{1}{4}$ ".

Price per gross .. .. £6 15s. 0d.

Price per dozen .. .. 13s. 6d.

**WS 3847**



\*For other types of "D" irons see Sectional Catalogue W.O.2, Overhead Line Equipment, available on request.

## INSULATOR IRONWORK



WS 3915/7

### COACH SCREWS.

WS 3915/17 Galvanized, square-headed.  
 WS 3915 Size 2" x 1/4". Weight per dozen 1 lb. 4 oz.  
 Price per dozen .. .. 1s. 9d.  
 WS 3917 Size 3" x 1/4". Weight per dozen 2 lb. 14 oz.  
 Price per dozen .. .. 3s. 0d.



WS 3919/21

### CLOUT NAILS.

WS 3919/21  
 WS 3919 Size 2 1/2" x 1/4". Weight per dozen 1 lb. 4 oz.  
 Price per dozen .. .. 1s. 9d.  
 WS 3921 Size 3" x 1/8". Weight per dozen 1 lb.  
 Price per dozen .. .. 2s. 0d.



WS 3923

### RAGGED BOLTS (Black).

WS 3923  
 Diameter 1/2". Overall length 4 1/2". Screwed 1 1/2". Weight 7 1/2 oz.  
 Price per dozen .. .. 7s. 6d.



WS 3924

### RAGGED EYE BOLTS (Galvanized).

WS 3924  
 Diameter of eye 1 1/4". Length to centre of eye, 5 1/2". Weight 11 lb. 14 oz.  
 Price per dozen .. .. £1 5s. 6d.

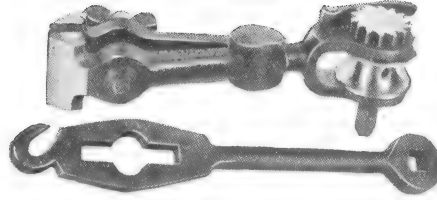
## INSULATORS COMPLETE WITH IRONWORK

*In the foregoing pages porcelain and ironwork are listed separately, except where bolts are cemented into insulators. The following is a schedule of insulators, complete with the more useful types of ironwork, and its use will eliminate unnecessary trouble in calculating prices.*

Description of porcelain.	Cat. No.	Description of ironwork.	Cat. No.	Price per gross.	Price per dozen.
				£ s. d.	£ s. d.
"Sinclair" ..	WS 3719	Straight bolt ..	WS 3805	9 7 0	18 9
		Coachscrew bolt ..	WS 3813	9 10 3	19 3
		Swan neck bolt ..	WS 3817	10 6 6	1 0 9
		Single "J" bolt ..	WS 3811	11 9 6	1 3 0
		Double "J" bolt ..	WS 3815	23 9 6	2 7 0
"Cordeau" ..	WS 3721	Straight bolt ..	WS 3807	12 3 6	1 4 4
		Swan neck bolt ..	WS 3819	14 0 9	1 8 1
		Straight bolt ..	WS 3805	8 17 9	17 9
"Queen" ..	WS 3723	Coachscrew bolt ..	WS 3813	9 1 0	18 3
		Swan neck bolt ..	WS 3817	9 17 3	19 9
P.O. terminal ..	WS 3725	Straight bolt ..	WS 3807	16 9 5	1 14 4
Large P.O. ..	WS 3727	Straight bolt ..	WS 3807	12 3 6	1 4 4
		Swan neck bolt ..	WS 3819	14 1 3	1 8 1
Insulators with top groove	WS 3737	Straight bolt ..	WS 3805	9 3 3	18 7
		Coachscrew bolt ..	WS 3813	9 6 6	18 10
		Straight bolt ..	WS 3805	12 15 8	1 5 9
		Coachscrew bolt ..	WS 3813	12 18 11	1 6 3
		Straight bolt ..	WS 3805	9 7 6	18 9
Fluid ..	WS 3743	Coachscrew bolt ..	WS 3813	9 10 9	19 3
		Straight bolt ..	WS 3805	17 1 3	1 14 3
"Dwarf" ..	WS 3745	Straight bolt ..	WS 3805	22 11 6	2 5 3
		Straight bolt ..	WS 3809	6 3 0	12 6
		Swan neck bolt ..	WS 3821	6 19 3	14 0
		Straight bolt ..	WS 3805	15 8 0	1 11 0
		Single "J" bolt ..	WS 3811	17 10 6	1 15 3
Pothead insulators	WS 3785	Double "J" bolt ..	WS 3815	35 11 6	3 11 6
		Ditto vertical ..	WS 3815/vert.	35 11 6	3 11 6
		Straight bolt ..	WS 3805	20 19 0	2 2 0
		Single "J" bolt ..	WS 3811	23 1 6	2 6 3
		Double "J" bolt ..	WS 3815	56 9 6	5 13 0
Shackle	WS 3789	Ditto vertical ..	WS 3815/vert.	56 9 6	5 13 0
		Straight bolt ..	WS 3805	27 19 0	2 16 0
		Single "J" bolt ..	WS 3811	30 1 6	3 0 3
		Double "J" bolt ..	WS 3815	60 13 6	6 1 6
		Ditto vertical ..	WS 3815/vert.	60 13 6	6 1 6
Shackle	WS 3603	Two straps and two bolts	WS 3831	6 7 6	13 0
			WS 3833	12 4 0	1 4 6
			WS 3835	23 3 9	2 6 3



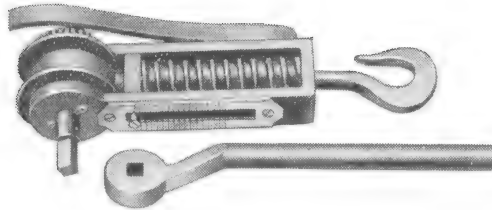
**TOOLS FOR OVERHEAD WORK**  
**DRAW VICE AND KEY**



**WS 3933/5**

Cat. No.	Description.	Approx. weight.	Price each.
WS 3933	Steel throughout, length of jaw 5"	lb. oz.	£ s. d.
WS 3935	Ditto length of jaw 6"	3 9	1 17 6
		5 13	2 4 0

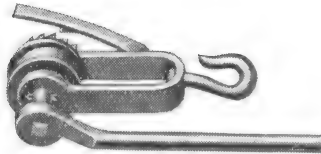
**SPRING BALANCE RATCHET with strain indicator and key**



**WS 3945**

WS 3945	Steel throughout, will stand strain up to 150 lb. WS 3975 tongs should be used .. .. .	1 11	1 17 6
---------	--	------	--------

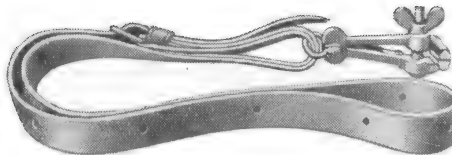
**STRAINING RATCHET**



**WS 3955**

WS 3955	Small steel ratchet, for use with tongs WS 3975 .. .. .	1 4	12 0
---------	---	-----	------

**HAND VICE AND STRAP**



**WS 3965**

WS 3965	Strong hand vice, with leather strap and buckle .. .. .	1 8	1 1 6
---------	---	-----	-------

# S.E.C.

## TOOLS FOR OVERHEAD WORK

### DUTCH DRAW TONGS



**WS 3975**

Cat. No.	Description.	Approx. weight.	Price each.
WS 3975	Strong steel tongs, for use with straining ratchets WS 3945/3955, suitable for wires $\frac{1}{8}$ in. diameter .. ..	lb. oz. 1 3	s. d. 7 6

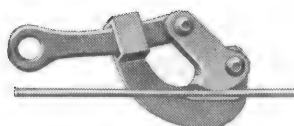
### COLONIAL DRAW TONGS



**WS 3985**

Cat. No.	Description.	Approx. weight.	Price each.
WS 3985	Strong tongs, will take wire up to $\frac{1}{4}$ in. diameter, and will stand a strain of 400 lb. .. ..	lb. oz. 1 0	s. d. 7 0

### "COME ALONG" TONGS



**WS 3995**

Cat. No.	Description.	Approx. weight.	Price each.
WS 3995	Light make for telegraph and telephone wires up to $\frac{1}{4}$ " diameter. Will stand a strain of 500 lb. .. ..	lb. oz. 0 10	s. d. 8 6
WS 3997	Heavy make, for trolley-wires up to $\frac{1}{2}$ " diameter. Will stand a strain of 1,600 lb. .. ..	2 6	12 0

### POLE CLIMBING IRONS



**WS 4007**

Cat. No.	Description.	Approx. weight.	Price each.
WS 4007	Set complete, pair of irons with straps and pads ..	lb. oz. each. 4 12	s. d. 37 6
WS 4009	Spare straps for above .. ..	per doz. 1 0	per doz. 21 6
WS 4011	Spare pads for do. .. ..	2 12	37 6

## LINESMAN'S SAFETY BELTS FOR POLES



**WS 4081**



**WS 4083 (with tools)**

Cat. No.	Description.	Price each.
WS 4081	Strong linesman's safety belt for poles, as illustrated (G.P.O. Pattern) .. ..	£ s. d. 2 7 6
WS 4083	Belt, with frogs and spring hook, <i>without</i> tools ..	15 0

## BLOW LAMPS STANDARD TYPE

Cat. No.	Description.	Approx. weight, each.		Price each.	
		lb.	oz.	s.	d.
WS 4021*	Brass, pocket size. Capacity $\frac{1}{2}$ pint, will burn $1\frac{1}{2}$ hours without attention. For Benzolene or Petrol.	1	6	13	6
WS 4031*	Brass inclined burner type, consuming $\frac{1}{2}$ pint paraffin per burning hour. Can be used in any position; gives very hot flame	1	11	17	6
WS 4033*	Ditto, ditto, 1 pint size. Fixed handle	2	9	21	6

### "SIEVERT" TYPE

WS 4043*	For Benzolene or Motor Spirit. Capacity $\frac{1}{2}$ pint, will burn $1\frac{1}{2}$ hours	1	2	23	0
WS 4045*	Ditto. Capacity $\frac{3}{4}$ pint, will burn $1\frac{1}{2}$ hours	2	0	30	0
WS 4055*	For Paraffin or Petroleum. Capacity $\frac{1}{2}$ pint, will burn $1\frac{1}{2}$ hours	1	6	31	6
WS 4057*	Ditto. Capacity 1 pint, will burn $1\frac{1}{2}$ hours	2	13	40	0

\*Foreign manufacture.

Prices for larger size blow lamps, brazing lamps and furnaces, on application.

## SOLDERING IRONS

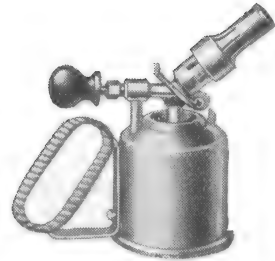


WS 4067/71

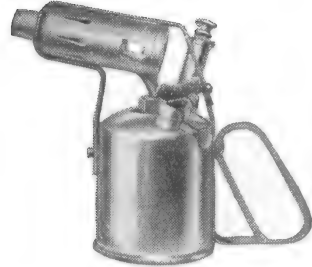
Cat. No.	Description.	Wgt. of bit.	Approx. weight of iron.		Price each.
			lb.	lb. oz.	s. d.
WS4067	Best refined square polished copper soldering iron, comprising bit of copper with iron shank and ferruled stained wood handle	$\frac{1}{2}$	0	12	2 9
WS4069	Ditto	1	1	7	4 6
WS4071	Ditto	$1\frac{1}{2}$	2	1	6 6

Prices for larger sizes of soldering irons on application.

Prices are subject to market fluctuations.



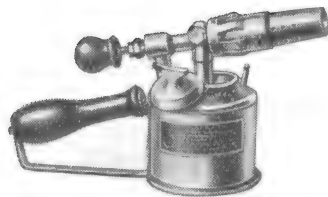
WS 4021



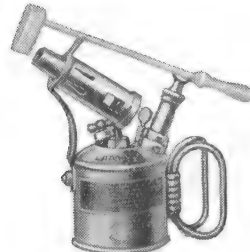
WS 4033



WS 4043



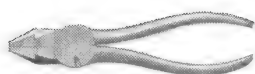
WS 4045



WS 4055

## TOOLS

### LINESMAN'S CUTTING PLIERS (BLACKED STEEL)



**WS 4093/9**

Square or 1/2 round nose.	Approx. weight each.	Cat. No.	Price each.
ins.	oz.		s. d.
5	4	WS 4093	2 3
6	6 1/2	WS 4095	2 9
7	9 1/2	WS 4097	3 6
8	13	WS 4099	4 0

### PLIERS WITH INSULATED HANDLES



**WS 4123/7**

Square nose.	Approx. weight each.	Cat. No.	Price each.
ins.	oz.		s. d.
6	7	WS 4123	4 3
7	10	WS 4125	5 0
8	14	WS 4127	5 9

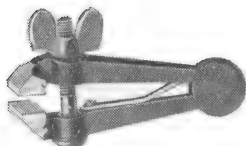
### COMBINED CUTTING PLIERS AND WIRE PULLER



**WS 4109/13**

Nickelled.	Approx. weight each.	Cat. No.	Price each.
ins.	lb. oz.		£ s. d.
4 1/2	4	WS 4109	14 6
5 1/2	7	WS 4111	18 6
8	1 1	WS 4113	1 7 6

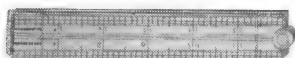
### HAND VICE (SOLID WROUGHT STEEL)



**WS 4137/43**

Size.	Approx. weight each.	Cat. No.	Price each.
ins.	lb. oz.		s. d.
4	9	WS 4137	5 0
4 1/2	11	WS 4139	5 0
5	1 5	WS 4141	6 9
6	1 14	WS 4143	7 6

### BOXWOOD RULES



**WS 4189/91**

Description.	Cat. No.	Price each.
2 ft. 4-fold (inside joint) ..	WS 4189	s. d. 1 9
1 ft. 2-fold (inside joint) ..	WS 4191	1 0

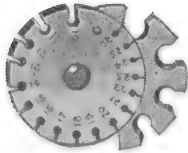
For tools for use with conduits see pages 309-315.

# TOOLS

## WIRE GAUGES.

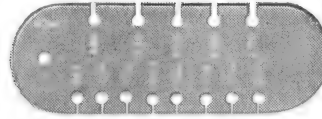
### Double Circular.

### Single Oblong.



**WS 4153/9**

Old Standard Gauge sizes on front side, decimals on reverse side.

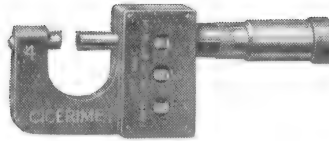


**WS 4169**

British Standards for copper conductors.

Size.	Cat. No.	Price each.	Size.	Cat. No.	Price each.
S.W.G.		s. d.	ins.		s. d.
1-26	WS 4153	9 0	} .0076-.103	WS 4169	3 6
1-30	WS 4155	10 6			
1-36	WS 4157	12 0			
1-40	WS 4159	12 6			

## DIRECT READING MICROMETER.



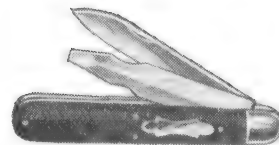
**WS 4179**

This instrument is constructed to measure in decimal parts of an inch, and will be found invaluable for measuring the thickness of insulating material, wires or metal sheet, and anything requiring fine and accurate measurement. The readings are seen at a glance, and as there are no calculations to make, all risk of error is eliminated. Complete in case. Price on application.

## COMBINATION KNIFE.

Single-blade knife consists of screwdriver blade only with edge on one side for scraping wires, etc. This is locked when open and cannot be released without pressure on contrivance at back of knife.

The double-bladed knife consists of a combination of knife, screwdriver and file. The screwdriver blade has an edge on one side for scraping wires, so that the knife blade need not be used for that purpose, but kept sharp for other uses. Screwdriver blade when opened is locked and cannot close on hand. This cannot be released until back of the other blade is pressed in.



**WS 4213**

Description.	Approx. weight.	Cat. No.	Price each.
Single blade .. ..	oz. 2	WS 4211	s. d. 4 6
Double blade .. ..	3	WS 4213	6 0

## TOOLS

### PINCERS



WS 4201

Description.	Approx. weight.	Cat. No.	Price each.
	oz.		s. d.
Best tower pincers, 6in. .. ..	8	WS 4201	2 9

### HAMMERS Exeter Type



WS 4223/29

Size No.	Approx. weight.	Cat. No.	Price each.
	lb. oz.		s. d.
2	10½	WS 4223	2 6
3	12½	WS 4225	3 0
4	15	WS 4227	3 3
6	1 2	WS 4229	4 3

### Canterbury Type



WS 4239/43  
Oval handle

2	1 1	WS 4239	4 6
3	1 2½	WS 4241	5 0
4	1 4½	WS 4243	5 6

### TURNSCREWS



WS 4253/57



WS 4267/71

Description.	Size.	Approx. weight.	Cat. No.	Price each.
	ins. oz.			s. d.
Turnscrew strong turned, oval boxwood handle	4	3½	WS 4253	1 9
	6	6½	WS 4255	2 9
	8	9	WS 4257	3 6
Cabinet turncrew firm grip boxwood handle	4	3½	WS 4267	2 0
	6	5½	WS 4269	2 6
	8	8½	WS 4271	3 0

### COLD CHISELS



WS 4281/3

Description.	Size.	Approx. weight.	Cat. No.	Price each.
		lb. oz.		s. d.
Best cast steel chisels for cold metals	½ × 6	6	WS 4281	1 0
	¾ × 8	1 2½	WS 4283	1 9

### WOOD CHISELS



WS 4293/4301

Description.	Size.	Approx. weight.	Cat. No.	Price each.
	ins. oz.			s. d.
Beech handles, brass ferrules	¾	3	WS 4293	1 6
	1	3½	WS 4295	1 6
	1½	4	WS 4297	1 9
	2	4½	WS 4299	2 0
	1	8	WS 4301	2 3

## TOOLS

### RATCHET BRACES AND BITS

#### BRACES

Bright, sweep and jaws steel, 8in. sweep, weight approx., 2 lb. 6 oz.

Cat. No. WS **4311**, Price each, **13s. 6d.**



WS **4311**

#### BITS

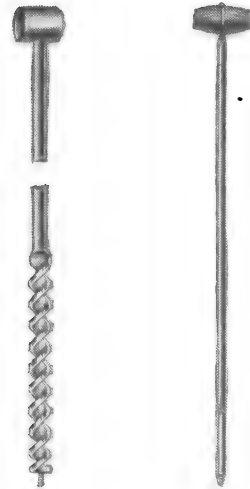
Cat. No.	Size.	Description.	Approx. weight.	Price each.
	in.		oz.	s. d.
WS <b>4321</b>	$\frac{1}{2}$	Cast steel— Centre bit sharpened	$1\frac{1}{2}$	<b>1 0</b>
WS <b>4323</b>	$\frac{3}{4}$	" " "	$1\frac{1}{2}$	<b>1 0</b>
WS <b>4325</b>	$\frac{7}{8}$	" " "	$1\frac{1}{2}$	<b>1 0</b>
WS <b>4327</b>	1	" " "	2	<b>1 3</b>
WS <b>4329</b>	$\frac{3}{4}$	Snail horn— Countersunk bits ..	$1\frac{1}{2}$	<b>1 0</b>
WS <b>4331</b>	$\frac{1}{2}$	" " ..	$1\frac{1}{2}$	<b>1 0</b>
WS <b>4333</b>	—	Turnscrew bits, plain black .. ..	$1\frac{1}{2}$	<b>9</b>



WS **4321/7**

### BRIGHT SCOTCH SCREW AUGERS (EYED)

Cat. No.	Size.	Approx. weight.	Price each.
	ins.	lb. oz.	s. d.
WS <b>4343</b>	$\frac{3}{8}$	11	<b>3 0</b>
WS <b>4345</b>	$\frac{1}{2}$	14	<b>3 0</b>
WS <b>4347</b>	$\frac{5}{8}$	1 1	<b>3 6</b>
WS <b>4349</b>	$\frac{3}{4}$	1 4	<b>4 3</b>



WS **4343** WS **4359**

### BELL-HANGERS' GIMLETS

Cat. No.	Description.	Size.	Approx. weight.	Price each.
		ins.	oz.	s. d.
WS <b>4359</b>	Shell pattern	18	6	<b>2 3</b>
WS <b>4361</b>	boxwood	24	7	<b>2 6</b>
WS <b>4363</b>	handles	30	8	<b>2 9</b>



WS **4385**

#### GIMLETS

Cat. No.	Description.	Price each.
WS <b>4383</b>	Shell pattern, assorted to $\frac{1}{2}$ in.	<b>d. 8</b>
WS <b>4385</b>	Twist pattern, boxwood handles, assorted to $\frac{1}{2}$ in. .. ..	<b>9</b>



WS **4383**

### SAWS

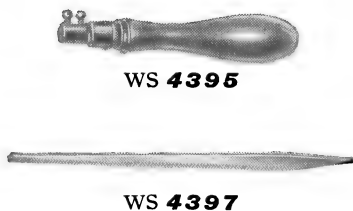
Cat. No.	Description.	Approx. weight.	Price each.
		oz.	s. d.
WS <b>4373</b>	Cast steel iron back saw, 10in. .. ..	14	<b>9 6</b>



WS **4373**

## TOOLS

### SAW PADS AND BLADES.



Description.	Approx. weight.	Cat. No.	Price each.
	oz.		s. d.
Best small beechwood-saw pads ..	4	WS 4395	2 3
Best cast steel blades .. ..	$\frac{1}{2}$	WS 4397	6

### BRADAWLS.



Description.	Approx. weight.	Cat. No.	Price each.
	oz.		d.
Ash or beech handle .. ..	2	WS 4407	6

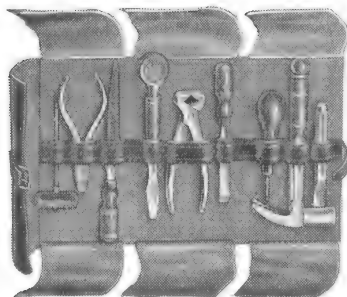
### PATENT TOOL HANDLE.



Description.	Approx. weight.	Cat. No.	Price each.
	oz.		s. d.
Polished handle, with adjustable chuck and 10 steel tools ..	8	WS 4447	17 0

## BELL-FITTERS' TOOLS

Best quality tools, with rosewood handles, in lined leather rolls.



SET consisting of 9 Tools.	Approx. weight.	Cat. No.	Price each complete.
	lb. oz.		£ s. d.
Claw Hammer, Bright Cold Chisel, Firmer Chisel, Bright Pincers, File, Bright Cutting Pliers, Gimlet, Bradawl, Turnscrew ..	2 11	WS 4417	1 18 6

SET consisting of 15 Tools.	Approx. weight.	Cat. No.	Price each complete.
	lb. oz.		£ s. d.
Hand Vice, 1-ft. Ivory Rule, Turnscrew, Claw Wrench, Bright Pincers, Folding Saw, Claw Hammer, Half-round File, Bright Cold Chisel, Firmer Gouge, Bright Cutting Pliers, Firmer Chisel, Bradawl, Gimlet, Round-nose Pliers .. ..	4 2	WS 4427	3 17 6

Prices for wiremen's tool chests on application.



## JOINTERS' TENTS

For Telegraph, Telephone and Electric Light purposes

These tents are made in four sections, the frames being made of specially selected ash, 2" x 1½" finished.

The covering is made from stout khaki proofed canvas, and doorways, both at back and front, are fitted with strong brass eyelets and studs, so that same may be opened only at top if required. All necessary wrought iron eye and bolt plates and brass cabin hooks are fitted, so that tents are ready for immediate use.



Size and approx. weight.	Cat. No.	Price each.		
6ft. high x 5ft. long x 3ft. wide, approx. weight, 100 lb. . . . .	WS 4457	£	s.	d.
6ft. x 5ft. 6in. x 4ft., approx. weight, 106 lb. . . . .	WS 4459	15	0	0
		15	12	6

Tents fitted with Windowlite in top sections, 11/6 extra.

Prices for marine cable jointers' tents on application.

## LINESMEN'S BLOCKS AND FALLS

Consisting of pair of two and three sheave pulley blocks, best London made, galvanized and fitted with G.M. sheaves, and reeved with 90ft. best manilla rope. Approx. weight, 14 lb. Cat. No. WS 4437, Price per set, £3 0s. 0d.

WS 4437

## FLEXIBLE TUBING (STEEL) FOR ARMOURING FLEXIBLE CORDS

Flexible metallic tubing is used extensively for converting ordinary lighting flexible cords into armoured flexible, and is particularly suitable for use with hand lamps. It is light, extremely flexible, and affords complete protection for insulated wires under any circumstances.

This tubing can be supplied as either flexible metallic armouring or as flexible metallic waterproof tubing, which not only provides a most efficient armour, but also converts ordinary flexible into a waterproof and vermin-proof flexible conductor.

### Flexible armour

Internal diameter.	To accommodate twin flexible cord having conductors.	Approx. weight per 100 yards.	Cat. No.	Price per yard.	
ins.		lb.		s.	d.
¼	14/.0076, 23/.0076, 28/.0076.	22	WS 4469	1	9
½	40/.0076 and 70/.0076.	28	WS 4471	1	0
¾	110/.0076 and 162/.0076.	33	WS 4473	1	3

### Flexible watertight tubing

¼	14/.0076, 23/.0076, 28/.0076.	28	WS 4483	1	0
½	40/.0076 and 70/.0076.	32	WS 4485	1	3
¾	110/.0076 and 162/.0076.	42	WS 4487	1	6

# S.E.C.

## IRON SCREWS FOR WOODWORK COUNTERSUNK HEADS

PRICES ARE PER GROSS.

$\frac{1}{4}$ , $\frac{3}{8}$ and $\frac{1}{2}$ inch.			$\frac{5}{8}$ inch.			$\frac{3}{4}$ inch.			$\frac{7}{8}$ and 1 inch.			1 $\frac{1}{2}$ inch.		
No.	s.	d.	No.	s.	d.	No.	s.	d.	No.	s.	d.	No.	s.	d.
1 ..	8 $\frac{1}{2}$		2 ..	9 $\frac{1}{2}$		3 ..	10		4 ..	1 0 $\frac{1}{2}$		5 ..	1 3 $\frac{1}{2}$	
2 ..	8 $\frac{3}{4}$		3 ..	9 $\frac{3}{4}$		4 ..	10		5 ..	1 1 $\frac{1}{2}$		6 ..	1 4	
3 ..	8 $\frac{5}{8}$		4 ..	9 $\frac{5}{8}$		5 ..	11		6 ..	1 1 $\frac{1}{4}$		7 ..	1 5	
4 ..	8 $\frac{3}{4}$		5 ..	10		6 ..	1 0		7 ..	1 2 $\frac{1}{2}$		8 ..	1 5 $\frac{1}{2}$	
5 ..	9 $\frac{1}{2}$		6 ..	11		7 ..	1 1		8 ..	1 3 $\frac{1}{2}$		9 ..	1 6 $\frac{1}{2}$	
6 ..	9 $\frac{3}{4}$		7 ..	1 0		8 ..	1 1 $\frac{1}{2}$		9 ..	1 4 $\frac{1}{2}$		10 ..	1 7 $\frac{1}{2}$	
7 ..	11		8 ..	1 1		9 ..	1 2 $\frac{1}{2}$		10 ..	1 4 $\frac{1}{2}$		11 ..	1 9	
8 ..	1 0		9 ..	1 2		10 ..	1 3		11 ..	1 6 $\frac{1}{2}$		12 ..	1 11	
9 ..	1 1		10 ..	1 3		11 ..	1 4		12 ..	1 7 $\frac{1}{2}$		13 ..	2 1	
10 ..	1 2		11 ..	1 4		12 ..	1 5 $\frac{1}{2}$		13 ..	1 10		14 ..	2 4	
11 ..	1 3		12 ..	1 5		13 ..	1 8		14 ..	2 0		15 ..	2 8	
12 ..	1 4		14 ..	1 10		14 ..	1 10		15 ..	2 3		16 ..	3 0	
14 ..	1 10		16 ..	2 6		15 ..	2 2		16 ..	2 7		17 ..	3 3	
						16 ..	2 6		17 ..	2 10		18 ..	3 7	
						18 ..	3 2		18 ..	3 2		20 ..	4 5	
							2 2		20 ..	4 0		22 ..	5 2	
									22 ..	4 9		24 ..	5 10	

1 $\frac{1}{2}$ inch.			1 $\frac{3}{4}$ inch.			2 inch.			2 $\frac{1}{2}$ inch.			2 $\frac{3}{4}$ inch.		
No.	s.	d.	No.	s.	d.	No.	s.	d.	No.	s.	d.	No.	s.	d.
6 ..	1 6		7 ..	1 10 $\frac{1}{2}$		8 ..	2 0		9 ..	2 5		10 ..	2 8	
7 ..	1 6 $\frac{1}{2}$		8 ..	1 11		9 ..	2 1		10 ..	2 6		11 ..	3 0	
8 ..	1 7 $\frac{1}{2}$		9 ..	1 11 $\frac{1}{2}$		10 ..	2 2		11 ..	2 8		12 ..	3 4	
9 ..	1 8 $\frac{1}{2}$		10 ..	2 0		11 ..	2 4		12 ..	3 0		13 ..	3 8	
10 ..	1 9		11 ..	2 2		12 ..	2 8		13 ..	3 4		14 ..	4 0	
11 ..	1 11		12 ..	2 4		13 ..	3 0		14 ..	3 8		15 ..	4 5	
12 ..	2 1		13 ..	2 8		14 ..	3 4		15 ..	4 0		16 ..	4 9	
13 ..	2 2		14 ..	3 0		15 ..	3 8		16 ..	4 5		17 ..	5 2	
14 ..	2 4		15 ..	3 4		16 ..	4 0		17 ..	4 9		18 ..	5 6	
15 ..	2 8		16 ..	3 8		17 ..	4 5		18 ..	5 2		20 ..	6 4	
16 ..	3 3		17 ..	4 0		18 ..	4 9		20 ..	5 11		22 ..	7 4	
17 ..	3 8		18 ..	4 5		20 ..	5 6		22 ..	6 10		24 ..	8 8	
18 ..	4 0		20 ..	5 2		22 ..	6 4		24 ..	8 2		26 ..	10 6	
20 ..	4 9		22 ..	5 11		24 ..	7 1		26 ..	9 6		28 ..	13 0	
22 ..	5 6		24 ..	6 8		26 ..	8 6		28 ..	12 6		30 ..	18 0	
24 ..	6 2		26 ..	8 0		28 ..	12 0		30 ..	16 0		32 ..	22	
26 ..	7 6		28 ..	10 0		30 ..	14 0		32 ..	20 0				
28 ..	8 6		30 ..	12 0		32 ..	18 0							
30 ..	10		32 ..	15 0										

2 $\frac{3}{4}$ inch.			3 inch.			3 $\frac{1}{2}$ inch.			4 inch.		
No.	s.	d.	No.	s.	d.	No.	s.	d.	No.	s.	d.
11 ..	3 4		12 ..	4 0		14 ..	5 10		16 ..	8 1	
12 ..	3 8		13 ..	4 5		15 ..	6 6		17 ..	9 0	
13 ..	4 0		14 ..	4 9		16 ..	7 2		18 ..	9 10	
14 ..	4 5		15 ..	5 2		17 ..	8 0		20 ..	11 6	
15 ..	4 9		16 ..	5 10		18 ..	9 0		22 ..	13 0	
16 ..	5 2		17 ..	6 6		20 ..	10 8		24 ..	14 4	
17 ..	5 9		18 ..	7 3		22 ..	12 4		26 ..	16 6	
18 ..	6 6		20 ..	8 7		24 ..	13 8		28 ..	18 6	
20 ..	7 6		22 ..	10 2		26 ..	15 6		30 ..	24 0	
22 ..	8 8		24 ..	11 8		28 ..	17 6		32 ..	32 0	
24 ..	10 4		26 ..	13 6		30 ..	22 0		36 ..	42 0	
26 ..	12 0		28 ..	15 0		32 ..	30 0		40 ..	56 0	
28 ..	14 0		30 ..	20 0		40 ..	50 0				
30 ..	20 0		32 ..	26 0							
32 ..	25 0		36 ..	38 0							
			40 ..	46 0							

NOTE.—All round head screws are measured from under the head. Blued screws and screws with japanned heads charged at next higher price.

# IRON SCREWS FOR WOODWORK

## ROUND HEADS

PRICES ARE PER GROSS.

$\frac{1}{4}$ and $\frac{3}{8}$ inch.			$\frac{1}{2}$ inch.			$\frac{3}{4}$ inch.		
No.	s.	d.	No.	s.	d.	No.	s.	d.
1 ..	9		1 ..	10		3 ..	11	
2 ..	9		2 ..	10		4 ..	11	
3 ..	9		3 ..	10		5 ..	1	0
4 ..	9		4 ..	10		6 ..	1	0
5 ..	10		5 ..	11		7 ..	1	1
6 ..	11		6 ..	1	0	8 ..	1	2
7 ..	1	0	7 ..	1	1	9 ..	1	3
8 ..	1	1	8 ..	1	2	10 ..	1	5
9 ..	1	2	9 ..	1	3	11 ..	1	6
10 ..	1	3	10 ..	1	4	12 ..	1	7
			12 ..	1	7	14 ..	2	0

$\frac{1}{2}$ inch.			$\frac{3}{4}$ and 1 inch.			1 $\frac{1}{2}$ inch.		
No.	s.	d.	No.	s.	d.	No.	s.	d.
4 ..	1	0	6 ..	1	5	7 ..	1	8
5 ..	1	1	7 ..	1	6	8 ..	1	9
6 ..	1	2	8 ..	1	7	9 ..	1	10
7 ..	1	3	9 ..	1	8	10 ..	1	11
8 ..	1	4	10 ..	1	9	11 ..	2	1
9 ..	1	5	11 ..	1	11	12 ..	2	4
10 ..	1	7	12 ..	2	1	13 ..	2	8
11 ..	1	8	13 ..	2	4	14 ..	3	0
12 ..	1	10	14 ..	2	8	15 ..	3	4
13 ..	2	0	15 ..	3	0	16 ..	3	8
14 ..	2	3	16 ..	3	3	18 ..	4	5
16 ..	2	10	18 ..	4	0	20 ..	5	2
			20 ..	4	9	22 $\frac{1}{2}$ gross	5	10

1 $\frac{1}{2}$ inch.			1 $\frac{3}{4}$ inch.			2 inch.			2 $\frac{1}{2}$ inch.		
No.	s.	d.	No.	s.	d.	No.	s.	d.	No.	s.	d.
8 ..	1	11	8 ..	2	1	9 ..	2	6	10 ..	3	0
9 ..	2	0	9 ..	2	2	10 ..	2	8	11 ..	3	4
10 ..	2	2	10 ..	2	4	11 ..	3	0	12 ..	3	8
11 ..	2	4	11 ..	2	8	12 ..	3	4	13 ..	4	0
12 ..	2	8	12 ..	3	0	13 ..	3	8	14 ..	4	5
13 ..	3	0	13 ..	3	4	14 ..	4	0	15 ..	4	9
14 ..	3	4	14 ..	3	8	15 ..	4	5	16 ..	5	2
15 ..	3	8	15 ..	4	0	16 ..	4	9	18 ..	5	11
16 ..	4	0	16 ..	4	5	18 ..	5	6	20 ..	6	10
18 ..	4	9	18 ..	5	2	20 ..	6	4			
20 ..	5	6	20 ..	5	11	22 $\frac{1}{2}$ grs.	7	6			
22 $\frac{1}{2}$ grs.	6	4	24 $\frac{1}{2}$ gross	9	0	24 $\frac{1}{2}$ grs.	10	6			
24 $\frac{1}{2}$ grs.	7	9									

NOTE.—All round head screws are measured from under the head. Blued screws and screws with japanned heads charged at next higher price.

# S.E.C.

## BRASS SCREWS FOR WOODWORK

### COUNTERSUNK HEADS

PRICES ARE PER GROSS

$\frac{1}{8}$ , $\frac{3}{8}$ and $\frac{1}{2}$ inch.			$\frac{5}{8}$ inch.			$\frac{3}{4}$ inch.			$\frac{7}{8}$ and 1 inch.		
No.	s.	d.	No.	s.	d.	No.	s.	d.	No.	s.	d.
4 ..	1	6	4 ..	1	8	4 ..	1	10	6 ..	2	9
5 ..	1	7	5 ..	1	10	5 ..	2	0	7 ..	3	0
6 ..	1	9	6 ..	2	0	6 ..	2	3	8 ..	3	4
7 ..	2	0	7 ..	2	3	7 ..	2	6	9 ..	3	8
8 ..	2	3	8 ..	2	5	8 ..	2	8	10 ..	4	1
9 ..	2	6	9 ..	2	8	9 ..	3	0	11 ..	4	6
10 ..	2	9	10 ..	3	0	10 ..	3	4	12 ..	5	0
11 ..	3	4	11 ..	3	4	11 ..	3	10	13 ..	5	7
12 ..	3	8	12 ..	3	8	12 ..	4	4	14 ..	6	3
			14 ..	5	9	13 ..	4	10	15 ..	7	0
						14 ..	5	9	16 ..	7	10
						16 ..	7	10	17 ..	8	11
									18 ..	10	0
									20 ..	12	6

$1\frac{1}{4}$ inch.			$1\frac{1}{2}$ inch.			$1\frac{3}{4}$ inch.			2 inch.		
No.	s.	d.	No.	s.	d.	No.	s.	d.	No.	s.	d.
6 ..	3	3	6 ..	4	0	7 ..	5	3	8 ..	6	3
7 ..	3	7	7 ..	4	4	8 ..	5	6	9 ..	6	9
8 ..	4	0	8 ..	4	8	9 ..	5	11	10 ..	7	5
9 ..	4	5	9 ..	5	2	10 ..	6	7	11 ..	8	2
10 ..	4	11	10 ..	5	9	11 ..	7	3	12 ..	9	0
11 ..	5	5	11 ..	6	4	12 ..	8	0	13 ..	9	11
12 ..	6	0	12 ..	7	0	13 ..	8	10	14 ..	10	11
13 ..	6	8	13 ..	7	9	14 ..	9	9	15 ..	12	0
14 ..	7	5	14 ..	8	7	15 ..	10	9	16 ..	13	2
15 ..	8	3	15 ..	9	6	16 ..	11	10	17 ..	14	7
16 ..	9	2	16 ..	10	6	18 ..	14	6	18 ..	16	0
17 ..	10	4	17 ..	11	9	20 ..	17	6	20 ..	19	2
18 ..	11	6	18 ..	13	0	22 ..	20	11	22 ..	22	9
20 ..	14	2	20 ..	15	10	24 ..	24	8	24 ..	26	8
22 ..	17	3	22 ..	19	1				26 ..	32	0
			24 ..	22	8				28 ..	38	0
									30 ..	44	0
									32 ..	50	0

$2\frac{1}{4}$ inch.			$2\frac{1}{2}$ inch.			$2\frac{3}{4}$ inch.			3 inch.		
No.	s.	d.	No.	s.	d.	No.	s.	d.	No.	s.	d.
8 ..	7	0	10 ..	10	0	12 ..	13	0	12 ..	14	6
9 ..	7	6	11 ..	10	6	13 ..	13	9	13 ..	15	0
10 ..	8	3	12 ..	11	0	14 ..	14	5	14 ..	15	7
11 ..	9	1	13 ..	12	1	15 ..	15	9	15 ..	17	0
12 ..	10	0	14 ..	13	3	16 ..	17	2	16 ..	18	6
13 ..	11	0	15 ..	14	6	18 ..	20	6	17 ..	20	3
14 ..	12	1	16 ..	15	10	20 ..	24	2	18 ..	22	0
15 ..	13	3	17 ..	17	5	22 ..	28	3	20 ..	25	10
16 ..	14	6	18 ..	19	0	24 ..	32	8	22 ..	30	1
18 ..	17	6	20 ..	22	6	26 ..	38	0	24 ..	34	8
20 ..	20	10	22 ..	26	5				26 ..	40	0
22 ..	24	7	24 ..	30	8				28 ..	50	0
24 ..	28	8	26 ..	36	0				30 ..	60	0
			28 ..	44	0				32 ..	70	0
			30 ..	48	0						
			32 ..	54	0						

NOTE.—All the above screws are measured from under the head.

## BRASS SCREWS FOR WOODWORK

### ROUND HEADS

PRICES ARE PER GROSS

$\frac{1}{4}$ and $\frac{3}{8}$ inch.			$\frac{1}{2}$ inch.			$\frac{5}{8}$ inch.		
No.	s.	d.	No.	s.	d.	No.	s.	d.
4 ..	1	7	4 ..	1	10	4 ..	2	0
5 ..	1	9	5 ..	2	0	5 ..	2	3
6 ..	2	0	6 ..	2	3	6 ..	2	6
7 ..	2	3	7 ..	2	5	7 ..	2	8
8 ..	2	6	8 ..	2	8	8 ..	3	0
Supplied in packets of 1 gross			9 ..	3	0	9 ..	3	4
			10 ..	3	4	10 ..	3	10
						11 ..	4	4
						12 ..	4	10

$\frac{3}{4}$ inch.			$\frac{7}{8}$ and 1 inch.			1 $\frac{1}{4}$ inch.		
No.	s.	d.	No.	s.	d.	No.	s.	d.
4 ..	2	6	6 ..	3	7	6 ..	4	4
5 ..	2	9	7 ..	4	0	7 ..	4	8
6 ..	3	0	8 ..	4	5	8 ..	5	2
7 ..	3	4	9 ..	5	5	9 ..	5	9
8 ..	3	8	10 ..	6	0	10 ..	6	4
9 ..	4	1	11 ..	6	0	11 ..	7	0
10 ..	4	6	12 ..	6	8	12 ..	7	9
11 ..	5	0	13 ..	7	5	13 ..	8	7
12 ..	5	7	14 ..	8	2	14 ..	9	6
14 ..	7	0	15 ..	9	2	15 ..	10	6
Supplied in packets of 1 gross			16 ..	10	4	16 ..	11	9
			18 ..	12	9	18 ..	14	3
						20 ..	19	0

1 $\frac{1}{2}$ inch.			1 $\frac{3}{4}$ inch.			2 inch.			2 $\frac{1}{4}$ inch.		
No.	s.	d.	No.	s.	d.	No.	s.	d.	No.	s.	d.
7 ..	5	6	8 ..	6	9	8 ..	7	6	10 ..	10	6
8 ..	6	0	9 ..	7	6	9 ..	8	3	11 ..	11	0
9 ..	6	6	10 ..	8	3	10 ..	9	0	12 ..	12	0
10 ..	7	3	11 ..	8	0	11 ..	10	0	13 ..	13	3
11 ..	8	0	12 ..	10	0	12 ..	11	0	14 ..	14	6
12 ..	8	9	13 ..	11	0	13 ..	12	0	15 ..	16	0
13 ..	9	9	14 ..	12	0	14 ..	13	3	16 ..	17	6
14 ..	10	9	15 ..	13	3	15 ..	14	6	18 ..	20	9
15 ..	11	9	16 ..	14	6	16 ..	16	0	20 ..	26	6
16 ..	13	3	18 ..	17	6	18 ..	19	0	22 ..	30	9
18 ..	16	0	20 ..	22	9	20 ..	24	6	24 ..	38	0
20 ..	21	0	22 ..	26	9	22 ..	28	9			
22 ..	24	9	24 ..	34	0	24 ..	36	0			
24 ..	32	0									
Supplied in packets of 1 gross			Supplied in packets of 1 gross			Supplied in packets of 1 gross			Supplied in packets of 1 gross		

NOTE.—All the above screws are measured from under the head.

## **“MAGNET” WIRING SYSTEMS**

**USING  CABLES**

Although the merits of a conduit system of wiring are unrivalled, there are nevertheless situations where considerations of price and/or convenience call for a simplified installation. In such cases the surface wiring system comes into its own. This is particularly so where an existing building is being converted for the supply of electricity. Here a conduit installation would necessitate considerable mutilation of the existing walls and interference with the decorations, to say nothing of the inconvenience caused to the occupants during the process ; the erection of a surface wiring system will obviate these troubles.

There are four MAGNET Wiring Systems, and for each “Pirelli-General” cables are used exclusively. One or other of these systems will fulfil every condition under which a wiring system should be employed ; all four types comply with the I.E.E. Regulations for the Electrical Equipment of Buildings.

The systems are :—

Lead-covered Systems.

- (a) incorporating lead-covered cables with earth continuity conductor (G.E.C. Patent No. 236786).
- (b) incorporating standard lead-covered cables.

Watertight System.

Tough Rubber-sheathed System.

Brief details of each of these four systems are given below.

### **Lead-covered System incorporating lead-covered cables with earth continuity conductor.**

The lead-covered cables employed in this system embody an earth continuity conductor, in accordance with the requirements of Table 19 of the I.E.E. Regulations (Tenth Edition).

This is now recognised as the most efficient metal-sheathed surface wiring system. By its use, earth continuity is ensured without the use of bonding clips or clamps ; it is extremely simple, and the ease of installation, low overall cost, and reliability combine to place it ahead of any other system employing metal-sheathed cables.

### **Lead-covered System incorporating standard lead-covered cables.**

In this system the need for efficient earth continuity of the sheathing by means of clamps cannot be over-emphasised. It is estimated that 90 per cent. of the trouble experienced with metal-sheathed systems is due to negligence in this respect. Providing, however, the precautions normal to a metal-sheathed system are taken and the accessories listed in the following pages are used, no apprehension as to the reliability of the system need be experienced.

### **Watertight System.**

This system has been designed to meet the need for a reliable and thoroughly watertight installation. It is recommended for use not only in situations where the presence of water is known but also under conditions where dampness is suspected ; in such cases

# **“MAGNET” WIRING SYSTEMS**

## **USING CABLES**

the small extra cost is more than compensated for by the increased reliability of the installation. The principal feature of the system is the patent gland (Patent No. 184369) described on page 234. This gland is made in various sizes for single-core and also for twin and three-core cables (flat section), thus enabling the cable to be used in conjunction with ironclad switches, fuse boards, etc., that have watertight features. The fixing of the gland is very simple and requires no special tools, effecting the maximum saving in time and labour. With this system satisfactory earth continuity is ensured.

### **Tough Rubber-sheathed System.**

This system has been designed to meet the demand for a dependable non-metallic wiring system. Tough rubber-sheathed cable is practically impervious to moisture and is, therefore, especially suitable for use in damp situations. Where a considerable amount of moisture is present it is desirable that the cable be run on porcelain cleats (see page 199) to permit the free passage of air round it. The tough rubber sheath is very robust, and any damage likely to occur through careless handling is reduced to a minimum.

### **Junction Boxes.**

All MAGNET Junction Boxes used with any of the systems described adequately meet the requirements of the I.E.E. Regulations (Tenth Edition), Nos. 406 H and 1322.

For lead-covered and/or tough rubber-sheathed systems in damp situations it is recommended that junction boxes should be filled with MAGNET Plastic Compound (see page 208) after connections have been made. This method of sealing the joints prevents moisture creeping in.

### **Cables.**

For cables specially designed for use with Lead-covered Systems:

Single-core, see page 111.

Twin-core (flat), see page 118.

Three-core (flat), see page 126.

For lead-covered cables with earth continuity conductors, Single-core, Twin-core (flat) and Three-core (flat), see page 133.

For Cables for use with Tough Rubber-sheathed Cable System:

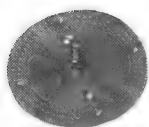
Single-core, see page 131.

Twin-core (flat) and Three-core (flat), see page 132.

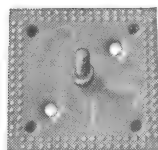
Advice regarding the installation of any form of Wiring System can be obtained, free of obligation, from the Head Office, or any branch establishment of the G.E.C.

## JUNCTION BOXES FOR "MAGNET" WIRING SYSTEMS using Lead-covered Cables (Patent No. 331771)

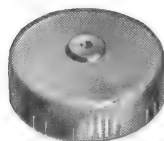
### Backplates



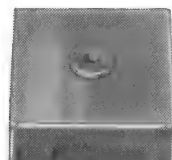
**MW 8410**



**MW 8415**



**MW 8414**



**MW 8416**

### Covers

### BACKPLATES

Backplates of MAGNET junction boxes are provided with a centre terminal, which is slotted to ensure easy fixing for the earth continuity conductor of lead-sheathed cable; the earth continuity wire is held by a clamping nut. The centre terminal is screwed to act as a fixing for the MAGNET junction box cover or a wood pattrass. The serrations in the backplate combined with the tongues in the cover form an additional bond on the metal sheathing.

Cat. No.	Description.	Weight per doz.	Price.		
			Per box of 12.	Per gross.	
		lb. oz.	s. d.	£	s. d.
MW <b>8410</b>	Small round backplate (tinned brass)	1 0	4 0	2	2 8
MW <b>8410A</b>	Large round backplate do.	1 2	6 8	3	4 0
MW <b>8415</b>	Small square backplate do.	1 0	4 0	2	2 8
MW <b>8415A</b>	Large square backplate do.	1 5	6 8	3	4 0

### COVERS

Covers of MAGNET junction boxes are suitable for single, twin, or three-core cables. The covers can be adapted easily for any number of entries up to four by bending inwards the tongues of metal formed between the slots in the side of the cover. These tongues seat on the lead sheathing of the cable, thus forming an efficient bond when the cover is screwed on to the backplate. Additional security is given by serrations in the backplate on which the lead sheathing is forced by the cover, ensuring perfect bonding. A milled fixing nut is provided and is permanently attached to the cover to prevent its being lost.

Cat. No.	Description.	Weight per doz.	Price.		
			Per box of 12.	Per gross.	
		lb. oz.	s. d.	£	s. d.
MW <b>8414</b>	Small round cover (tinned brass) ..	1 5	6 8	2	2 8
MW <b>8414A</b>	Large round cover do. ..	1 7	8 0	4	5 4
MW <b>8416</b>	Small square cover do. ..	1 2	6 8	2	2 8
MW <b>8416A</b>	Large square cover do. ..	1 11	8 0	4	5 4

*For wood blocks and fixing nuts, see page 238.*



**S.E.C.**

# EARTH CONTINUITY RINGS AND CLAMPS

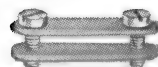
## FOR "MAGNET" WIRING SYSTEMS

using Standard Lead-covered Cable

Where continuity clips (as described below) are not required, tinned brass rings and clamps supply a method of bonding metal-sheathed cables Class Nos. 703, 712, 722, 7703, 7712 and 7722 behind standard wood blocks.



MW 8419



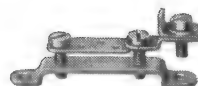
MW 8420A

Cat. No.	Description.	Price.		
		Per dozen.		Per carton of 1 gross.
		s.	d.	£ s. d.
MW 8419	Bonding rings .. .. .	5	9	3 0 0
MW 8420A	Bonding clamps .. .. .	1	9	17 4

For Junction Boxes see page 232.

## EARTHING CLAMP FOR MAIN CABLES

Cat. No.	Description.	Price per dozen.	
		s.	d.
MW 8417	Tinned brass clamp with earthing terminal ..	4	8



MW 8417

## EARTH CONTINUITY CLIP

This Earth Continuity Clip is intended for securing continuity on the outer metal sheathing of cable behind standard wood blocks in conjunction with the backplate MW 8410, described on page 232, if standard lead-covered cable is used. It is designed to save time and labour and combine all the requirements laid down in I.E.E. Regulations. There is one fixing only for any number of entries up to four, thus eliminating the necessity for additional screws and nuts. The clips are lead coated to avoid electrolytic action.

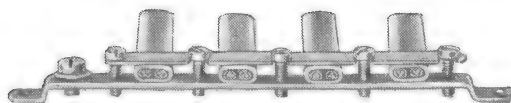


MW 8420

Cat. No.	Price.		
	Per dozen.		Per carton of 1 gross.
	s.	d.	£ s. d.
MW 8420	4	10	2 13 4

## EARTHING BARS

These bars are designed for use at the back of fuse boards, multiple switch boards or similar positions where it is necessary to connect the metal sheathing of several cables together. Each bar (made of tinned brass) is supplied with an earth connecting screw and washer, and is designed for easy assembly.



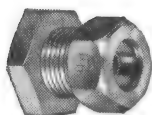
MW 8456

Cat. No.	Dimensions.	No. of ways.	Price per dozen.	
			s.	d.
MW 8455	3½ × ¾ × 1/16 ins.	2	5	0
MW 8456	5½ × ¾ × 1/16	4	6	10
MW 8457	7½ × ¾ × 1/16	6	10	3

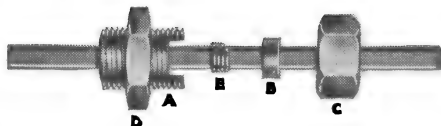
## “MAGNET” WATERTIGHT WIRING SYSTEM

(Patent No. 184369)

The MAGNET watertight surface wiring system has been designed to meet the growing demand for a reliable and efficient watertight installation, combined with reasonable cost and perfect continuity.



**MW 8500**  
Gland.



The principal feature of the system is the patent gland (Patent No. 184369) described below. The gland is made in various sizes for single-core (round section) and twin or three-core (flat section) cable, thus enabling the cable to be used in conjunction with ironclad switches, fuse boards, etc., which have watertight features and, hitherto, could only be used with screwed conduit. The method of fixing the gland is simplicity itself, and, as it requires no special tools, both time and labour are reduced to the minimum.

Standard twin-core lead-covered cable should be used, especially for alternating current systems. Should a third wire be required for switching purposes, three-core should be used.

### Construction

The gland consists of four parts, clearly shown in the illustration above.

The body or plug portion A is made from brass or other suitable metal bar, screwed  $\frac{1}{4}$ -in. electric thread on the outside and with either a circular or oval hole through its length, according to whether single or multi-core metal-sheathed cable is to be used with it.

Across one end of this screwed plug a wide slot is milled, leaving two D-shaped pieces, between which fits the washer B.

This washer has a hole of the same size and shape as that through the plug A. The hexagon nut C is used to clamp the washer B to the plug A. The lock nut D is used to clamp the plug A in its required position to the junction box, switch, fuse board, etc.



### Method of Connection

Remove the metal sheath of the cable at the desired position in the usual manner.

Slip the nut C over the end of the cable, followed by washer B.

Wrap a short length of 18 gauge pure lead wire E round the cable sheath at a point approximating to the entrance hole in the plug A (usually three or four turns will be found sufficient), and push the shaped washer B into position.

The joint is completed by screwing down the clamping nut C which forces the plug A and the washer B together.

The lead wire is compressed into the recesses between the cable and the body of the plug, making a perfectly watertight joint and ensuring continuity throughout the sheathing of the installation.

### GLANDS

Cat. No.	Description.	Price per doz.	
		s.	d.
<b>MW 8500</b>	Gland complete, for 1/.044 or 3/.029 twin cable ..	<b>13</b>	<b>4</b>
<b>MW 8501</b>	Do. for 1/.064 or 3/.036 twin cable ..	<b>13</b>	<b>4</b>
<b>MW 8502</b>	Do. for 7/.029 twin or 3/.029 three-core cable ..	<b>13</b>	<b>4</b>

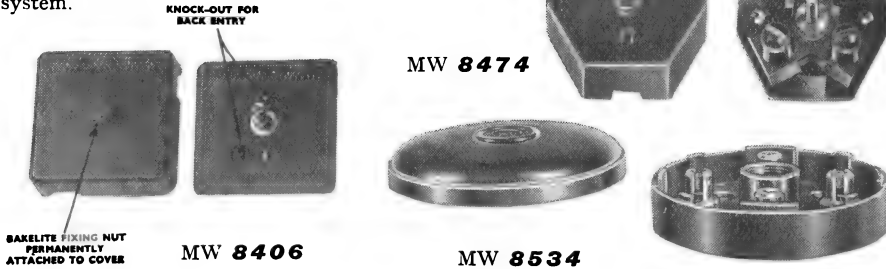
### SEALING WIRE

Reels of pure lead sealing wire, 18 gauge, are made up in two sizes for use with the glands employed in the MAGNET watertight wiring system.

Cat. No.	Description.	Price per lb.	
		s.	d.
<b>MW 8503</b>	$\frac{1}{2}$ lb. reel (approx. 20 yds.) ..	<b>1</b>	<b>9</b>
	1 lb. reel (approx. 40 yds.) ..	<b>1</b>	<b>7</b>

## BAKELITE JUNCTION BOXES FOR "MAGNET" WIRING SYSTEM using Tough Rubber-sheathed Cable

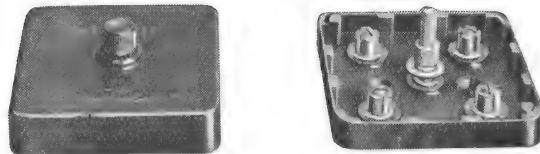
Bakelite Junction Boxes possess outstanding qualities : (1) Good mechanical strength; (2) high dielectric strength; and (3) permanent finish. They are designed for quick wiring and form a useful range of accessories for a non-metallic wiring system.



Cat. Nos. MW **8406/7**, MW **8474** and MW **8534** are suitable for use on any type of tough rubber-sheathed wiring system.

Cat. No.	Description.	Weight (approx.) per doz.	Price.			
			Per dozen.		Per gross.	
		lb. oz.	£	s. d.	£	s. d.
MW <b>8406</b>	Small square box .. ..	1 8	14	8	8	0 0
MW <b>8407</b>	Large rectangular box .. ..	2 4	17	4	9	12 0
MW <b>8474</b>	Tee box, with three fixed shrouded terminals .. ..	2 1	1	1 4	11	4 0
MW <b>8534</b>	Round box, with four fixed terminals .. ..	1 8	10	0	5	12 0

Cat. Nos. MW **8536/8** are designed to give every protection to joints on tough rubber - sheathed systems. When employed with the Bakelite Terminal Heads, Cat. Nos. MW **8540/42**, they will be found of the greatest practical service for exacting conditions at home and overseas. In situations where condensation is acute, further protection can be given by packing the boxes with Plastic Compound (see page 208) after the joints have been made.



MW **8536**

Cat. No.	Description.	Weight (approx.) per doz.	Price.			
			Per dozen.		Per gross.	
		lb. oz.	£	s. d.	£	s. d.
MW <b>8536</b>	Small square Bakelite box and cover with four fixed Terminals for wires up to 3/.036 (.003 sq. in.) .. ..	2 4	14	0	8	0 0
MW <b>8538</b>	Large square Bakelite box and cover with four fixed Terminals for cables up to 7/.036 (.007 sq. in.) .. ..	4 8	1	1 4	12	0 0

### BAKELITE TERMINAL HEADS

Cat. No.	Description.	Weight (approx.) per doz.	Price.
MW <b>8540</b>	Small size, for use with Bakelite Junction Boxes MW <b>8536</b> .. ..	2 0	1 4
MW <b>8542</b>	Large size, for use with Bakelite Junction Boxes MW <b>8538</b> .. ..	3 4	2 0

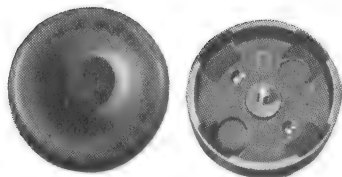
# S.E.C.

## "WITTONITE" JUNCTION BOXES

### FOR "MAGNET" WIRING SYSTEM

using Tough Rubber-sheathed Cable

These junction boxes, Cat. Nos. MW **8472** and MW **8476**, are moulded from WITTONITE composition and are suitable for use with any T.R.S. cables.



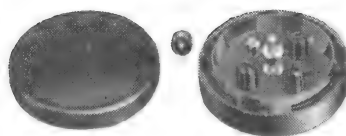
MW **8472**

The junction box MW **8476** (Patent No. 317201) is fitted with bakelite terminal heads. The design, in addition to conforming with Home requirements, meet all the exacting conditions of tropical situations.

It is provided with eight inlets which, after removal of the webs, will accommodate twin cables up to 3/036 S.W.G. The introduction of slotted terminals for all connections will be found the simplest method for quick wiring. Bakelite-moulded

terminal heads are provided to prevent live terminals being exposed in the event of the cover being removed and not replaced. Round the top of the base is a channel or groove to take a plastic compound for sealing if required.

In damp situations, junction boxes should be filled with plastic compound (see page 208) after the connections have been made so as to prevent damage from moisture. Sufficient plastic compound is included with each MW **8476** junction box.



MW **8476**

Cat. No.	Weight (approx.) per dozen.	Price.			
		Per dozen.		Per gross.	
	lb. oz.	£	s. d.	£	s. d.
MW <b>8472</b>	2 12	13	4	6	16 0
MW <b>8476</b>	5 2	1	1 4	12	0 0

## WOOD MOULDING

### SKEW DRILLED

Produced from fine-grain timber with a smooth surface ready for painting, colouring and varnishing in any desired finish to match the surrounding woodwork. Supplied with single groove only. Bundles of 100 ft.; lengths average 12 ft.

Skew drilled moulding ensures non-splitting when using pins MW **8521/22**.

Cat. No.	Internal dimensions.	Weight (approx.) per 1000 ft.	Price.			
			Per 100 feet.		Per 1000 feet.	
	ins.	qrs. lbs.	s.	d.	£	s. d.
MW <b>8468</b>	1 × 1/4	2 7	10	8	5	6 8
MW <b>8470</b>	1/2 × 1/4	2 9	8	10	4	5 4
MW <b>8473</b>	3/4 × 1/8	3 27	13	4	6	0 0

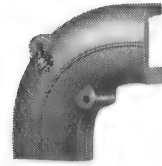
### NOT SKEW DRILLED

Cat. No.	Internal dimensions.	Weight (approx.) per 1000 ft.	Price.			
			Per 100 feet.		Per 1000 feet.	
	ins.	qrs. lbs.	s.	d.	£	s. d.
MW <b>8640</b>	1 × 1/4	2 7	6	10	3	4 0
MW <b>8641</b>	1/2 × 1/4	2 9	6	5	2	13 4
MW <b>8642</b>	3/4 × 1/8	3 27	8	10	4	0 0

For number of wires and cables accommodated, see page 240.

## MOULDED CORNER PIECES FOR "MAGNET" WIRING SYSTEMS

Cat. No.	Description.	Price.		
		Per doz.	Per gross.	
		s. d.	£	s. d.
	Brown WITTONITE. Spring Clip or Pin Fixing.			
MW 8531	For use with MW 8470 or MW 8641 Wood Moulding	3 1	1 12	0
MW 8532	For use with MW 8468 or MW 8640 Wood Moulding	3 6	1 17	4
MW 8533	For use with MW 8473 or MW 8642 Wood Moulding	3 9	2 0	0

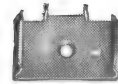


MW 8531

### TINNED BRASS FIXING CLIPS

(Patent Nos. 307673-240649)

This improved pattern clip for use with the above moulding provides an instantaneous and secure fixing and is a distinct advance on the fixing pin generally used.



MW 8469/75  
Fixing Clip.

Cat. No.	For use with Wood Mouldings.	Price per gross.	
		s. d.	
MW 8469	MW 8468 and MW 8640	8 8	
MW 8471	MW 8470 and MW 8641	8 0	
MW 8475	MW 8473 and MW 8642	10 0	



MW 8469/75  
Method of fixing.

### FIXING PINS

Cat. No.	Size.	Description.	Price per lb. (In 1-lb. cartons).
MW 8521 MW 8522	ins. x S.W.G. $1\frac{1}{4} \times 18$ $1\frac{1}{4} \times 17$	Sherardized pins for securing wood moulding to uneven wall surfaces	11d. 9d.

### FIBRE SADDLES

The ideal method of fixing tough rubber-sheathed cables under all exacting conditions is by means of fibre saddles.



MW 8523/4/5

Cat. No.	Internal dimensions.	Cables accommodated (Class No. 760).	Price per gross.	
			s. d.	
MW 8523	ins. $\frac{7}{16} \times \frac{3}{16}$	One twin 1/.044, 3/.029, or 3/.036 ..	3 4	
MW 8524	$\frac{7}{8} \times \frac{3}{16}$	Two ditto .. .. .	4 0	
MW 8525	$1\frac{1}{4} \times \frac{3}{16}$	Three ditto .. .. .	5 4	

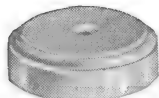
### FIXING PINS

Cat. No.	Description.	Price per pkt.
MW 8526	$\frac{5}{8}$ -in. Sherardized pins (in packets containing two gross) .. .. .	8d.

## WOOD BLOCKS FOR "MAGNET" WIRING SYSTEMS

These wood blocks are for use with backplates Cat. Nos. MW **8410** and MW **8415** (see page 232). They are well made of seasoned wood and are drilled with countersunk holes to take fixing nuts Cat. No. MW **8428** (see below).

### ROUND TYPE



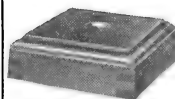
MW **8421**

Cat. No.	Dimensions.		Finish.	Price.			
	Diam.	Depth.		Per pkt. of 12.		Per gross.	
	ins.	ins.		s.	d.	£	s. d.
MW <b>8421</b>	3	1	White enamel ..	3	0	1	8 0
MW <b>8422</b>	3	1	Polished imitation walnut.. ..	3	0	1	8 0
MW <b>8424</b>	3	1	Polished real teak	5	0	2	12 0

Backplate MW **8410** only is suitable for these blocks (see page 232).

### SQUARE TYPE

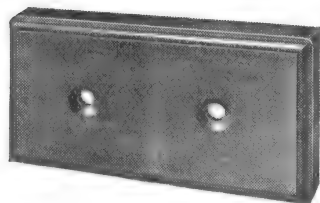
Cat. No.	Dimensions.		Finish.	Price.			
	Back.	Depth.		Per pkt. of 12.		Per gross.	
	ins.	ins.		s.	d.	£	s. d.
MW <b>8464</b>	3 × 3	2	White enamel ..	4	4	2	4 0
MW <b>8465</b>	3 × 3	1	Polished imitation walnut.. ..	4	4	2	4 0
MW <b>8466</b>	3 × 3	1	Polished real teak	7	0	3	12 0



MW **8465**

Backplate MW **8415** only is suitable for these blocks (see page 232).

### RECTANGULAR TYPE



MW **8426**

Cat. No.	Dimensions.		Finish.	Price.			
	Back.	Depth.		Per pkt. of 12.		Per gross.	
	ins.	ins.		s.	d.	£	s. d.
MW <b>8425</b>	6 × 3	1	White enamel ..	7	0	3	16 0
MW <b>8426</b>	6 × 3	1	Polished imitation walnut ..	6	4	3	8 0
MW <b>8427</b>	6 × 3	1	Polished real teak ..	9	4	5	0 0

Backplates MW **8410** or MW **8415** are suitable for these blocks (see page 232).

### FIXING NUTS

These fixing nuts are designed for use with wood blocks in connection with backplates Cat. Nos. MW **8410/5** (see page 232).

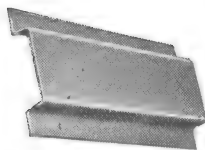
Cat. No.	Price.	
	Per dozen.	Per gross.
	s.	d.
MW <b>8428</b>	3	4
	s.	d.
	18	0



MW **8428**

### PROTECTIVE STEEL COVERING

Recommended for fixing over cables in situations where there is a risk of mechanical damage. Supplied in lengths of 6 feet.



MW **8484/5**

Cat. No.	Size.	No. of wires accommodated.	Class No.	Price per length.
	ins.			s.
MW <b>8484</b>	$\frac{3}{16} \times \frac{1}{4}$	One 1/.044 or 3/.029	712	d. 11
			7712	
MW <b>8485</b>	$1 \times \frac{9}{32}$	Two 1/.044, 3/.029 or 3/.036	792	1
			7792	3

**S.E.C.****WIRING CLIPS****FOR "MAGNET" WIRING SYSTEMS**

Made of tinned brass with countersunk holes so that the heads of the screws or fixing pins do not project above the surface of the clip. Injury to the metal sheath of the cable is thus avoided.

Cat. No.	Size.	Price per gross.	
MW <b>8432</b>	Small	s.	d.
MW <b>8429</b>	Short	1	9
MW <b>8430</b>	Medium	2	4
MW <b>8431</b>	Long	2	8
		3	4

MW **8429**MW **8430**MW **8431**MW **8432**

**Number of Wires and Cables (Lead Covered or T.R.S.) accommodated by above Clips**

Size of wire.	Short Clip. MW <b>8429</b>	Medium Clip. MW <b>8430</b>	Long Clip. MW <b>8431</b>	Small Clip. MW <b>8432</b>
Single				
1/.044	—	3	4	2
3/.029	2	3	4	—
3/.036	2	3	3	—
7/.029	2	2	3	—
7/.036	—	2	3	—
Flat twin				
1/.044	—	2	—	1
3/.029	—	2	—	1
3/.036	1	—	2	—
7/.029	1	—	2	—
7/.036	—	1	2	—
Flat three-core				
1/.044	1	—	—	—
3/.029	1	—	—	—
3/.036	—	1	—	—

**FIXING PINS**

For use with Wiring Clips MW **8429/32**

Brass			Brassed Iron		
Cat. No.	Size.	Price per gross.	Cat. No.	Size.	Price per gross.
MW <b>8433</b>	ins.	5d.	MW <b>8437</b>	ins.	3d.
MW <b>8434</b>	$\frac{3}{4}$	6d.	MW <b>8438</b>	$\frac{3}{4}$	4d.
MW <b>8435</b>	1	8d.	MW <b>8439</b>	1	5d.

**FIXING SCREWS**

For use with Wiring Clips or Saddles

**COUNTERSUNK HEADS****ROUND HEADS**

Brass			Iron			Brass		
Cat. No.	Size.	Price per gross.	Cat. No.	Size.	Price per gross.	Cat. No.	Size.	Price per gross.
	No. ins.	s. d.		No. ins.	s. d.		No. ins.	s. d.
MW <b>8440</b>	6 $\frac{1}{2}$	1 9	MW <b>8444</b>	6 $\frac{1}{2}$	8	MW <b>8448</b>	6 $\frac{1}{2}$	2 3
MW <b>8441</b>	6 $\frac{3}{4}$	2 0	MW <b>8445</b>	6 $\frac{3}{4}$	10	MW <b>8449</b>	6 $\frac{3}{4}$	2 6
MW <b>8442</b>	6 $\frac{3}{4}$	2 3	MW <b>8446</b>	6 $\frac{3}{4}$	11	MW <b>8450</b>	6 $\frac{3}{4}$	3 0
MW <b>8443</b>	6 1	2 9	MW <b>8447</b>	6 1	1 0	MW <b>8451</b>	6 1	3 7



## LEAD ALLOY SADDLES FOR "MAGNET" WIRING SYSTEMS

Cat. No.	Internal dimensions.	Price per gross.
MW <b>8477</b>	ins. $\frac{3}{8} \times \frac{3}{16}$	s. d. <b>4 8</b>
MW <b>8478</b>	$\frac{7}{16} \times \frac{1}{4}$	<b>4 10</b>
MW <b>8479</b>	$\frac{7}{16} \times \frac{1}{4}$	<b>5 1</b>
MW <b>8480</b>	$\frac{11}{16} \times \frac{1}{4}$	<b>5 4</b>
MW <b>8481</b>	$1 \times \frac{1}{4}$	<b>6 3</b>

### Number of Wires and Cables (Lead Covered or T.R.S.) accommodated by above Saddles.

Size of wire.	$\frac{3}{8} \times \frac{3}{16}$ in. (.375 × .187) MW <b>8477</b>	$\frac{7}{16} \times \frac{1}{4}$ in. (.437 × .25) MW <b>8478</b>	$\frac{7}{16} \times \frac{1}{4}$ in. (.562 × .25) MW <b>8479</b>	$\frac{11}{16} \times \frac{1}{4}$ in. (.687 × .25) MW <b>8480</b>	$1 \times \frac{1}{4}$ in. (1 × .25) MW <b>8481</b>
Single					
1/.044	—	2	—	3	5
3/.029	—	2	—	3	4
3/.036	—	—	2	—	3
7/.029	—	—	2	—	3
7/.036	—	—	—	2	—
Flat twin					
1/.044	1	—	—	2	—
3/.029	1	—	—	2	—
3/.036	—	1	—	—	2
7/.029	—	—	1	—	—
7/.036	—	—	1	—	—
Flat three-core					
1/.044	—	1	—	—	—
3/.029	—	—	1	—	—
3/.036	—	—	1	—	—

*For Brass Saddles and Clips see page 197.*

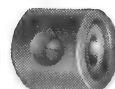
### Number of Wires and Cables accommodated by Wood Mouldings (page 236)

Size of wire.	MW <b>8468</b> MW <b>8640</b>	MW <b>8470</b> MW <b>8641</b>	MW <b>8473</b> MW <b>8642</b>
Single			
1/.044	4	2	—
3/.029	4	2	—
3/.036	3	2	—
Flat twin			
1/.044	3	1	—
3/.029	2	1	—
3/.036	2	1	—
7/.029	—	—	1
7/.036	—	—	1
7/.044	—	—	1
7/.064	—	—	1
Flat three-core			
1/.044	—	1	—
3/.029	—	1	—
3/.036	—	—	1



## SINGLE-ENDED CONNECTORS FOR USE WITH "MAGNET" WIRING SYSTEMS

Cat. No.	Description.	Price.	
		Per doz.	Per gross.
		s. d.	s. d.
MW 8418	One-way single-ended connector of registered design, consisting of heavy brass terminal with ample room for working, mounted in WITTONITE ..	1 8	15 0



MW 8418

For Porcelain One, Two and Three-way Connectors see page 308.

## "GENALEX" SCREW-ON CONNECTORS

(Pat. Nos. 210668-215671)

Made of one-piece high grade porcelain with an internal tapered thread which is hard enough to cut a thread on copper wire. The connectors are screwed on like an ordinary nut, and stay tight.



MW 8528 MW 8530

Cat. No.	Description.	Packing.	Price per gross.
			s. d.
MW 8528	Midget	1 gross cartons	11 6
MW 8530	Normal	$\frac{1}{2}$ gross cartons	17 9

## LEAD STRIP

For fixing metal-sheathed cables in damp situations and other places where there is a possibility of electrolytic action.

Cat. No.	Dimensions.	Price per 12-ft. roll.
	ins.	s. d.
MW 8460	$\frac{5}{16} \times \frac{1}{8}$	2 8
MW 8461	$\frac{7}{16} \times \frac{1}{8}$	4 0

## ADAPTABLE FIXING SADDLES

This saddle will be found extremely useful when saddles longer than those listed on page 237 and on page 240 are required. It consists of a straight tinned brass strip with separate tinned brass end pieces. The strip is cut to the required length to suit the number of cables to be fixed and the separate end pieces are slipped over to complete the saddle. The strips are packed in cartons containing one dozen and the end pieces in cartons containing 36.



MW 8482/3  
Adaptable fixing saddle.

Cat. No.	Description.	Price per gross.		
		£	s.	d.
MW 8482	Strips 12 ins. long .. ..	2	13	4
MW 8483	End pieces .. ..	13	4	

## PORTABLE CABLE DRUMS

When installing metal-sheathed cable the use of a reliable drum is strongly recommended, not only as a time saver but also as a preventive of kinks and damage to the metal sheathing. One side of the drum is detachable to allow a complete coil of cable to be slipped on.

Cat. No.	Description.	Price each.		
		£	s.	d.
MW 8462	Drum complete with stand ..	3	14	8
MW 8463	Stand only .. ..	18	8	



MW 8462/3



## CONDUITS AND CONDUIT FITTINGS

MAGNET conduit and conduit fittings are manufactured in all types at the largest and most important works of their kind in Great Britain.

Inspection tests are carried out at each stage from the raw material upwards, ensuring absolute reliability and the highest possible quality ; this applies to both tubing and fittings. Every length of tubing is tested and stamped with the trade mark as a guarantee of quality.

MAGNET conduit and fittings can be supplied screwed with electric or gas threads. Two types of " Grip " continuity systems, Lug Grip and Pin Grip, are available and are described on pages 245 and 246. Conduit tube is stocked plain and screwed.

All screwed conduit tube and fittings are supplied with bright threads, free from enamel and treated so as to be practically rust proof. They are machined to the tolerances specified in the British Standard Specification, thus ensuring perfect fitting.

Screwed conduit fittings are supplied with electric thread unless otherwise specified. They can also be supplied screwed gas thread at a small extra charge. The catalogue number for the equivalent electric thread size (see Table of Equivalents on page 248) should be quoted.

Plain and screwed tube is stocked in SILVERLAC, black and galvanized finishes.

The new SILVERLAC finish is also available, giving a light silver-grey appearance suitable for use on white or light-coloured backgrounds. The conduits and fittings are dipped into a specially prepared solution and afterwards stoved, which ensures adherence to the metal.

SILVERLAC conduit and fittings are now established favourites with leading Architects, Consulting Engineers and Contractors. On account of its absolute durability and adaptability to blend with any colour schemes (especially for surface installations) the SILVERLAC finish is rapidly replacing the black enamel. If it be desired to paint the conduit a special colour, only one coat of paint is necessary with SILVERLAC, as against two or more required with black-enamelled conduit. The prices are the same as for black enamel.

A special flexible black stove enamel is used and does not peel or chip when tubing is bent or when fittings are knocked against one another. This quality is the result of considerable research and experiment in the correct heat treatment of enamelling ; in the G.E.C. Conduit Fittings Works thermostatically-controlled electric stoves are employed, and it is believed that this is the only installation of its type in the country.

Improved labour-saving designs are embodied in many of the fittings listed, and special attention is drawn to the illustrations on pages 252, 271, 275 and 305, which show clearly their convenience in use.

NOTE.—All MAGNET conduit tubes and fittings listed in this Catalogue comply with British Standard Specification No. 31 (1923). MAGNET conduit is also approved and certified by the Association of Steel Conduit Manufacturers, the A.S.C.M. mark on a GREEN label being stamped on every length of conduit.

The catalogue numbers of conduits and conduit fittings have been arranged so that the final numeral of each catalogue number is indicative of the size of conduit. Where the final numeral is 1 the size is  $\frac{1}{2}$  in. ; 2,  $\frac{3}{8}$  in. ; 3,  $\frac{1}{2}$  in. ; 5, 1 in. ; 6,  $1\frac{1}{4}$  in. ; 7,  $1\frac{1}{2}$  in. ; 8, 2 ins. ; 9,  $2\frac{1}{2}$  ins. For example, C **1001** implies  $\frac{1}{2}$ -in. conduit tubing ; C **1007** implies  $1\frac{1}{2}$ -in. tubing.

# **CONDUITS AND CONDUIT FITTINGS**

## **GENERAL DESCRIPTION**

The basis of all MAGNET conduits is selected mild steel, which is subjected to special annealing processes during manufacture. These processes produce a tubing that can be bent or set to any angle easily without breaking, splitting or kinking. Each length of tubing is rodde before leaving the works to remove any obstructions and fins that might injure the insulation of cables when drawn through.

For use in tropical climates and for special positions, insulated conduit tubes and fittings can be supplied. In this type of conduit the interior of the tube is lined with layers of special insulating paper, which is afterwards impregnated and compounded. Prices will be quoted on application.

Oval close joint tubing can be supplied for use in plaster where the thickness will not admit a round conduit.

The various classes of MAGNET conduit are described below. Special attention is drawn to the advantages of using screwed conduit in conjunction with screwed fittings where high-class installation work is being carried out. This system gives strength, absolute reliability, and perfect continuity. All threads comply with the British Standard Specification, and an important feature is that they are carried to a limited length only, thus forming a check preventing the tube entering too far into the fitting.

### **LIGHT GAUGE CONDUIT (PLAIN)**

**To British Standard Specification No. 31, Class A.**

- (a) *Close Joint*.—Ordinary conduit in which the edges of the strip are butted closely together without being mechanically joined.
- (b) *Brazed Joint*.—Similar to close joint but with the seam mechanically jointed by brazing.
- (c) *Solid Drawn or Seamless*.—Manufactured from mild steel by cold drawing solid on a bar, ensuring uniformity of gauge throughout. A special process of annealing and finishing produces a tube that can be easily bent or set without fear of fracture

### **HEAVY GAUGE CONDUIT (SCREWED ELECTRIC THREAD)**

**To British Standard Specification No. 31, Class B.**

- (a) *Welded Joint*.—Tube specially manufactured for electrical work from mild steel strip, fire-welded by the latest process; this gives a homogeneous weld with a perfectly smooth interior, allowing the tube to be set without danger of splitting.
- (b) *Solid Drawn or Seamless*.—Similar to plain solid drawn conduit, but of heavier gauge.

## CONDUITS AND CONDUIT FITTINGS

### General Description (continued).

#### HEAVY GAUGE CONDUIT (SCREWED GAS THREAD)

To British Standard Specification No. 21, Class B.

- (a) *Welded Joint*.—Similar to welded electric thread conduit, but of heavier gauge and slightly larger external diameter where necessary ; gauge suitable for screwing with full gas thread to British Standard Specification.
- (b) *Seamless*.—Similar to seamless electric thread conduit, but of heavier gauge and slightly larger external diameter where necessary ; gauge suitable for screwing with full gas thread to British Standard Specification.

#### GALVANIZING AND SHERARDIZING.

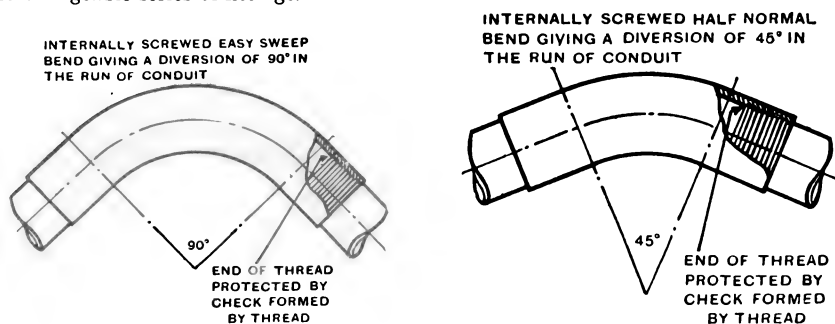
MAGNET conduits are treated by two alternative methods to protect the metal against rust, etc., in damp and exposed places, *viz.*, hot galvanizing and the impregnating system known as sherardizing.

- (a) *Hot Galvanizing*.—This consists of coating the tubes with a layer of zinc spelter by a special treatment, forming a very efficient protective covering guaranteed to last for many years.
- (b) *Sherardizing*.—This system is a patent process by which zinc alloy is embedded in the surface of the metal, leaving both exterior and interior quite smooth.

NOTE.—All conduits are supplied in random lengths from 10 feet to 13 feet 6 inches. Screwed conduit is screwed both ends and provided with one socket per length. When screwed conduit is ordered, electric thread will be supplied unless otherwise specified.

#### CONDUIT FITTINGS.

MAGNET conduit fittings are made of malleable iron or grey cast iron, and GENALEX of pressed steel. The greatest care is taken in the selection of these metals, periodical tests being made in the Research Laboratories of the G.E.C. Machining is done by the most up-to-date methods with machines specially constructed for this class of work. The tapping of holes, etc., is done to jigs, thus producing a completely standardized and interchangeable series of fittings.



Normal bends.

Half normal bends.

Fig. 1.—Features of MAGNET conduit fittings.

(Continued on next page.)

# CONDUITS AND CONDUIT FITTINGS

## General Description (continued).

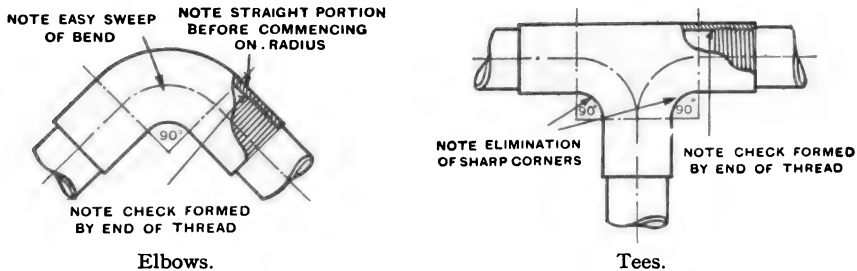


Fig. 2.—Features of MAGNET conduit fittings.

In the design of MAGNET fittings the aim throughout has been to produce fittings that simplify wiring and that can be installed with the minimum of trouble and labour. Special attention has been given to the elimination of sharp corners, easy sweeps being provided to allow of the cables being drawn through. An important feature is that the faces of fittings and covers are surface ground by specially constructed machines, ensuring perfect fitting and a flat surface for the direct mounting of accessories.

Figs. 1 and 2 indicate salient features in the general design of MAGNET conduit fittings. The "check" provided in the outlets of all fittings, screwed or grip, effectively prevents tubing entering the fitting too far. All tapping lugs are of ample thickness to ensure a safe number of threads, and all tapped holes are clean and free from enamel.

## GRIP CONTINUITY SYSTEMS.

In addition to the screwed fittings two types of "Grip" continuity systems are listed. The chief features of these systems are given below.

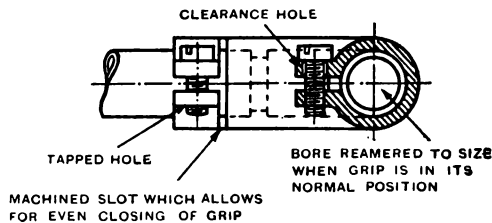


Fig. 3.—Lug Grip continuity system.

**The Lug Grip System** employs fittings of the highest class and forms the most efficient grip continuity system known. The action of the grip is seen in Fig. 3. The machining is done to very fine limits, and each operation is specially viewed. Parts that are machined but not enamelled are treated to prevent rust, and all grips are tested separately by a special machine before leaving the works. The material used enables a perfect springy action to be obtained at the lugs, so that the screws are always under tension, eliminating loss of grip through vibration and preventing the screws working loose.

*(Continued on next page.)*

## CONDUITS AND CONDUIT FITTINGS

### General Description (continued).

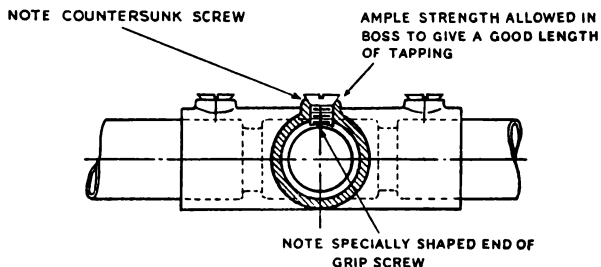


Fig. 4.—Pin Grip continuity system.

The **Pin Grip System** is illustrated in Fig. 4 and employs high grade malleable cast iron fittings provided with a tapped hole in each nozzle, into which a special countersunk screw is inserted. The metal is specially thickened at this point to ensure perfect grip. The ends of the grip screws are specially shaped to provide a cutting edge to make perfect contact, and being hardened will not turn up. The screws can always be easily removed.

### MULTIPLE SWITCH BOXES—ADJUSTABLE GRID PATTERN

The G.E.C. has developed a special type of multiple flush switch box, in which the switches are mounted on a grid that can be easily adjusted, enabling the switchplate to be made properly flush with the vertical surface of the wall or adjusted at an angle as required.

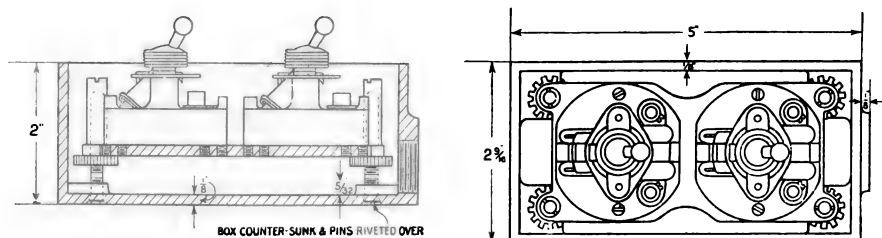


Fig. 5.—Two-way MAGNET patent adjustable grid flush switch box. Plan and section show two switches in position on adjustable grid.

The interior of the box is provided with a suitable number of long screws fitted into the back of the box, and passing through holes in the grid ; these screws are fitted with serrated nuts on which the grid rests, the edge of the nuts extending beyond the edge of the grid. The grid is so designed that while it is in position a tool can be inserted from the front of the box and every nut turned individually, thus enabling the grid and switches to be raised or lowered to bring the switchplate exactly in the required position. After adjustment the grid is secured by means of threaded sleeves, slotted at the top for the screwdriver.

The grids are made of malleable iron and are tapped to accommodate switches or plug sockets with either  $1\frac{1}{8}$ -in. or  $1\frac{1}{4}$ -in. fixing centres.

For illustrations, dimensions, prices, etc., see pages 288 and 289.

# CONDUIT DIMENSIONS AND WEIGHTS

## LIGHT GAUGE (Plain)

To British Standard Specification No. 31, Class A.

External diameter ..	ins.	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{1}{2}$	1	$1\frac{1}{2}$	$1\frac{1}{2}$	2
	mm.	.50 12.7	.625 15.87	.75 19.2	1.00 25.4	1.25 31.8	1.5 38.1	2.00 50.8
Internal diameter ..	ins.	.43	.54	.65	.90	1.13	1.38	1.87
	mm.	11	13.4	16.5	22.8	28.7	35	47.4
Thickness ..	ins.	.040	.040	.048	.048	.056	.064	.064
	mm.	1.0	1.0	1.2	1.2	1.4	1.6	1.6
Approx. weight per 100ft.	lb.	20	26	37	50	73	100	135
Approx. length per ton	feet	11200	8615	6054	4480	3068	2240	1623

## HEAVY GAUGE (Screwed Electric Thread)

To British Standard Specification No. 31, Class B.

External diameter	ins.	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{1}{2}$	1
	mm.	.50 12.7	.625 15.87	.75 19.2	1.00 25.4
Internal diameter ..	ins.	.388	.497	.606	.856
	mm.	9.9	12.6	15.3	21.6
Thickness ..	ins.	.056	.064	.072	.072
	mm.	1.4	1.6	1.8	1.8
Threads per inch ..	No.	18	18	16	16
Approx. weight per 100ft.	lb.	27	39	53	73
Approx. length per ton	feet	8300	5750	4225	3068

External diameter	ins.	$1\frac{1}{2}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
	mm.	1.25 31.8	1.50 38.1	2.00 50.8	2.50 63.5	3.00 76.2
Internal diameter ..	ins.	1.106	1.340	1.816	2.316	2.816
	mm.	28	34.1	46.1	58.8	71.5
Thickness ..	ins.	.072	.080	.092	.092	.092
	mm.	1.8	2.0	2.3	2.3	2.3
Threads per inch ..	No.	16	14	14	14	14
Approx. weight per 100ft.	lb.	93	124	192	242	286
Approx. length per ton	feet	2409	1806	1167	926	784

## HEAVY GAUGE (Screwed Gas Thread)

To British Standard Specification No. 21, Class B.

Approx. external diam.	ins.	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{1}{2}$	1	$1\frac{1}{2}$	$1\frac{1}{2}$	2
	mm.	.50 12.7	.625 15.87	.75 19.2	1.00 25.4	1.25 31.8	1.50 38.1	2.00 50.8
Gas size ..	ins.	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2
	mm.	.625 15.87	.75 19.2	1.00 25.4	1.25 31.8	1.50 38.1	2.00 50.8	2.50 63.5
Actual external diam.	ins.	.518	.656	.825	1.041	1.309	1.650	1.882
	mm.	13.0	16.9	20.9	26.3	33.2	41.9	47.8
Actual internal diam.	ins.	.406	.528	.681	.881	1.149	1.490	1.698
	mm.	10.3	13.4	17.0	22.1	29.4	37.2	43.0
Thickness ..	ins.	.056	.064	.072	.080	.080	.080	.092
	mm.	1.4	1.6	1.8	2.0	2.0	2.0	2.3
Threads per inch ..	No.	19	19	14	14	11	11	11
Approx. weight per 100ft.	lb.	32	39	57	82	105	132	175
Approx. length per ton	feet	7000	5745	3930	2730	2133	1700	1280



## CONDUIT WIRING CAPACITIES

Size of Wire { New Standard Old Standard	1/.036 1/20	1/.044 1/18	1/.064 1/16	3/.029 3/22	3/.036 3/20	7/.029 7/22	7/.036 7/20	7/.044 7/18
Plain Conduit {	ins.							
	$\frac{1}{8}$	3	2	2	—	—	—	—
	$\frac{3}{16}$	6	4	3	4	2	2	—
	$\frac{1}{4}$	8	6	4	5	4	3	—
	1	16	10	8	11	7	6	4
	$1\frac{1}{4}$	—	—	12	15	10	9	6
	$1\frac{1}{2}$	—	—	—	—	15	15	9
Screwed Conduit {	2	—	—	—	—	—	—	—
	$\frac{1}{8}$	2	2	—	—	—	—	—
	$\frac{3}{16}$	4	3	2	3	—	—	—
	$\frac{1}{4}$	5	5	4	4	3	2	—
	1	10	8	8	8	5	5	4
	$1\frac{1}{4}$	—	—	—	—	7	7	7
	$1\frac{1}{2}$	—	—	—	—	—	—	—
	2	—	—	—	—	—	—	—
	$2\frac{1}{2}$	—	—	—	—	—	—	—
	3	—	—	—	—	—	—	—

Size of Wire { New Standard Old Standard	7/.064 7/16	19/.052 19/17	19/.064 19/16	19/.072 19/15	19/.083 19/14	37/.064 37/16	37/.072 37/15	37/.083 37/14
Plain Conduit {	ins.							
	$\frac{1}{8}$	—	—	—	—	—	—	—
	$\frac{3}{16}$	—	—	—	—	—	—	—
	$\frac{1}{4}$	—	—	—	—	—	—	—
	1	2	—	—	—	—	—	—
	$1\frac{1}{4}$	4	1	—	—	—	—	—
	$1\frac{1}{2}$	5	3	2	2	1	1	—
Screwed Conduit {	2	10	5	4	4	3	2	2
	$\frac{1}{8}$	—	—	—	—	—	—	—
	$\frac{3}{16}$	—	—	—	—	—	—	—
	$\frac{1}{4}$	—	—	—	—	—	—	—
	1	2	—	—	—	—	—	—
	$1\frac{1}{4}$	4	2	—	—	—	—	—
	$1\frac{1}{2}$	7	4	3	—	—	—	—
	2	—	7	5	4	3	2	1
	$2\frac{1}{2}$	—	8	6	4	4	3	1
	3	—	—	—	—	4	3	2

**NOTE.**—The above figures are only approximate, and allowance must be made for variations in thickness of insulation and length of runs.

The above table shows the capacity of conduit for the simultaneous drawing in of cable, but disregard of this table will not be deemed to be non-compliance with the I.E.E. Regulations. The table applies to 250 volt grade vulcanized-rubber-insulated braided cables conforming in all respect to B.S.S. No. 7, 1926.

### TABLE OF THREAD EQUIVALENTS

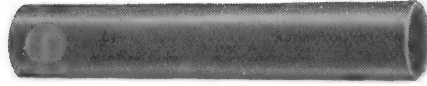
Gas Thread.	Electric Thread.
ins.	ins.
$\frac{1}{8}$	$\frac{1}{8}$
$\frac{3}{16}$	$\frac{3}{16}$
$\frac{1}{4}$	$\frac{1}{4}$

Gas Thread.	Electric Thread.
ins.	ins.
$\frac{1}{2}$	1
1	$1\frac{1}{4}$
$1\frac{1}{4}$	$1\frac{1}{2}$
$1\frac{1}{2}$	2



# CONDUIT TUBING

## LIGHT GAUGE (PLAIN)



**C 1001/28**

Light Gauge (Plain—Socket or Grip Joint).

### SOCKET OR GRIP JOINT

To British Standard Specification No. 31

External diameter.	CLOSE JOINT.		BRAZED.		SOLID DRAWN.	
	Cat. No.	Price per 100 ft. (Enamelled).	Cat. No.	Price per 100 ft. (Enamelled).	Cat. No.	Price per 100 ft. (Enamelled).
ins.						
$\frac{1}{2}$	<b>C 1001</b>	On application	<b>C 1011</b>	On application	<b>C 1021</b>	On application
$\frac{5}{8}$	<b>C 1002</b>		<b>C 1012</b>		<b>C 1022</b>	
$\frac{3}{4}$	<b>C 1003</b>		<b>C 1013</b>		<b>C 1023</b>	
1	<b>C 1005</b>		<b>C 1015</b>		<b>C 1025</b>	
$1\frac{1}{4}$	<b>C 1006</b>		<b>C 1016</b>		<b>C 1026</b>	
$1\frac{1}{2}$	<b>C 1007</b>		<b>C 1017</b>		<b>C 1027</b>	
2	<b>C 1008</b>		<b>C 1018</b>		<b>C 1028</b>	

### OVAL CLOSE JOINT

Approximate diameter.	Actual external dimensions.	Cat. No.	Price per 100 ft. (Enamelled).
ins.	ins.		
$\frac{1}{2}$	$\frac{5}{8} \times \frac{5}{16}$	<b>C 1091</b>	On application.
$\frac{5}{8}$	$\frac{3}{4} \times \frac{3}{8}$	<b>C 1092</b>	
$\frac{3}{4}$	$\frac{7}{8} \times \frac{1}{2}$	<b>C 1093</b>	

Heavy Gauge Conduits Unscrewed (without couplings), less 5%.

Unenamelled (self colour), same price as Enamelled ; Sherardizing, same price as Galvanizing.

*No extra for SILVERLAC finish.*

## CONDUIT TUBING

### HEAVY GAUGE (SCREWED)



**C 1031/89**

Heavy Gauge (Screwed).

### ELECTRIC THREAD

To British Standard Specification No. 31.

External diameter.	WELDED.			SOLID DRAWN.		
	Cat. No.	Price per 100 ft.		Cat. No.	Price per 100 ft.	
		Enamelled.	Galvanized.		Enamelled.	Galvanized.
ins.						
$\frac{1}{8}$	C 1031	On application.	On application.	C 1051	On application.	On application.
$\frac{3}{8}$	C 1032			C 1052		
$\frac{1}{2}$	C 1033			C 1053		
1	C 1035			C 1055		
$1\frac{1}{4}$	C 1036			C 1056		
$1\frac{1}{2}$	C 1037			C 1057		
2	C 1038			C 1058		
$2\frac{1}{2}$	C 1039			C 1059		
3	C 1040					

### GAS THREAD

To British Standard Specification No. 21.

External diameter.	Gas size.	WELDED.			SOLID DRAWN.		
		Cat. No.	Price per 100 ft.		Cat. No.	Price per 100 ft.	
			Enamelled.	Galvanized.		Enamelled.	Galvanized.
ins.	ins.						
$\frac{5}{8}$	$\frac{3}{8}$	C 1062	On application.	On application.	C 1082	On application.	On application.
$\frac{3}{4}$	$\frac{1}{2}$	C 1063			C 1083		
1	$\frac{3}{4}$	C 1065			C 1085		
$1\frac{1}{4}$	1	C 1066			C 1086		
$1\frac{1}{2}$	$1\frac{1}{4}$	C 1067			C 1087		
2	$1\frac{1}{2}$	C 1068			C 1088		
$2\frac{1}{2}$	2	—			C 1089		

Heavy Gauge Conduits Unscrewed (without couplings), less 5%.

Unenamelled (self colour), same price as Enamelled ; Sherardizing, same price as Galvanizing.

No extra for SILVERLAC finish.

## CONDUIT FITTINGS

### RUNNING COUPLERS



C 4071/80 Screwed.

### SPLIT COUPLERS



C 4022/9 Screwed.

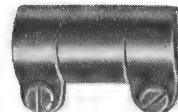
Size of conduit.	SCREWED.			
	Cat. No.	Price per dozen.		
ins.		£	s.	d.
$\frac{1}{2}$	C <b>4071</b>		6	4
$\frac{3}{8}$	C <b>4072</b>		7	4
$\frac{3}{4}$	C <b>4073</b>		8	0
1	C <b>4075</b>		11	4
$1\frac{1}{4}$	C <b>4076</b>		18	8
$1\frac{1}{2}$	C <b>4077</b>	1	5	0
2	C <b>4078</b>	1	14	8
$2\frac{1}{2}$	C <b>4079</b>	3	2	4
3	C <b>4080</b>	8	10	8

Size of conduit.	SCREWED (Malleable Iron).			
	Cat. No.	Price per dozen.		
ins.		£	s.	d.
$\frac{5}{8}$	C <b>4022</b>		<b>6</b>	<b>8</b>
$\frac{3}{4}$	C <b>4023</b>		<b>7</b>	<b>8</b>
1	C <b>4025</b>		<b>11</b>	<b>4</b>
$1\frac{1}{4}$	C <b>4026</b>		<b>17</b>	<b>0</b>
$1\frac{1}{2}$	C <b>4027</b>	<b>1</b>	<b>2</b>	<b>4</b>
2	C <b>4028</b>	<b>1</b>	<b>17</b>	<b>4</b>
$2\frac{1}{2}$	C <b>4029</b>	<b>2</b>	<b>4</b>	<b>8</b>

### SOLID COUPLERS



C 4001/10  
Screwed.

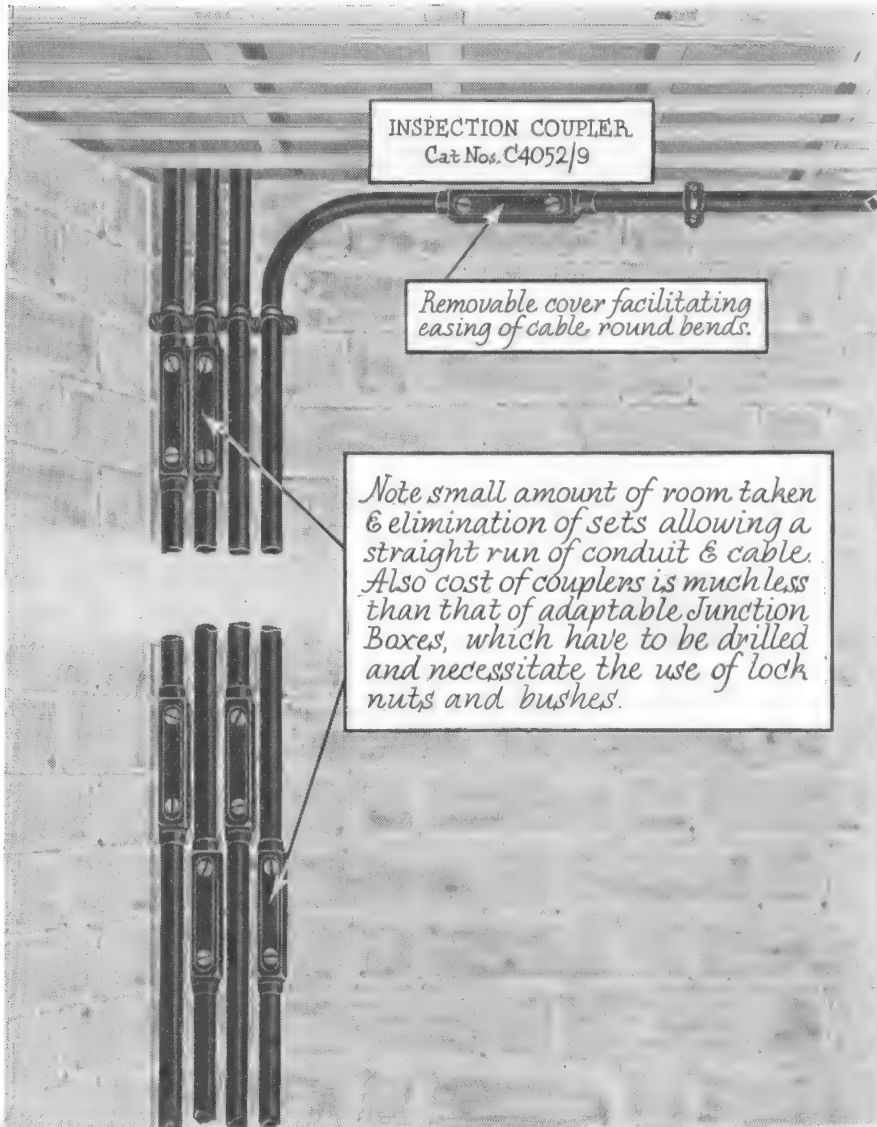


CS 4001/3  
Lug Grip.

Size of conduit.	SCREWED (Malleable Iron).			SCREWED (Pressed Steel).		LUG GRIP (Pressed Steel).	
	Cat. No.	Price per doz.			Cat. No.	Price per doz.	
ins.		£	s.	d.		s.	d.
$\frac{1}{2}$	C 4001	1	4		CA 4001	—	
$\frac{3}{8}$	C 4002	1	4		CA 4002	1	4
$\frac{3}{4}$	C 4003	2	4		CA 4003	2	0
1	C 4005	3	0		CA 4005	3	0
$1\frac{1}{4}$	C 4006	5	0		CA 4006	5	0
$1\frac{1}{2}$	C 4007	6	4		—	—	—
2	C 4008	13	4		—	—	—
$2\frac{1}{2}$	C 4009	1	5	0	—	—	—
3	C 4010	2	8	0	—	—	—

EXTRAS.—Malleable Iron Fittings—Hot Galvanizing or Sherardizing, 15%.  
Pressed Steel " " " " " 20%.

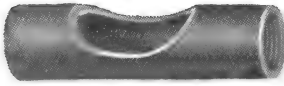
No extra for SILVERLAC finish.

**CONDUIT FITTINGS****New and Improved Labour-saving Pattern****INSPECTION COUPLERS**

*For particulars and prices see next page.*

# CONDUIT FITTINGS

## OUTLET COUPLERS

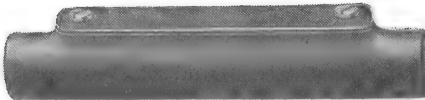


**C 4041/5**  
Screwed.



**CS 4041/3**  
Lug Grip.

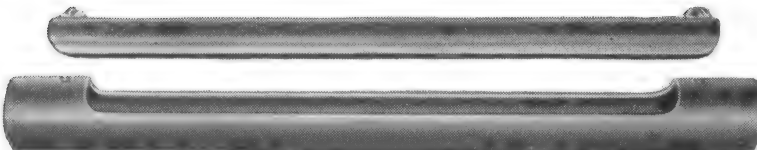
Size of conduit.	SCREWED (Malleable Iron).			SCREWED (Pressed Steel).			LUG GRIP (Pressed Steel).		
	Cat. No.	Price per doz.		Cat. No.	Price per doz.		Cat. No.	Price per doz.	
ins.		s.	d.		s.	d.		s.	d.
$\frac{1}{2}$	C <b>4041</b>	<b>2</b>	<b>8</b>	CA <b>4041</b>	—		CS <b>4041</b>	<b>2</b>	<b>0</b>
$\frac{5}{8}$	C <b>4042</b>	<b>3</b>	<b>0</b>	CA <b>4042</b>	<b>2</b>	<b>8</b>	CS <b>4042</b>	<b>2</b>	<b>0</b>
$\frac{3}{4}$	C <b>4043</b>	<b>3</b>	<b>8</b>	CA <b>4043</b>	<b>3</b>	<b>4</b>	CS <b>4043</b>	<b>3</b>	<b>0</b>
1	C <b>4045</b>	<b>5</b>	<b>4</b>	CA <b>4045</b>	—		—	—	—



**C 4052/9** Screwed (Malleable).

## INSPECTION COUPLERS

(See also illustration on previous page.)



**CA 4052/6** Screwed (Pressed Steel).

Size of conduit.	Length of opening.	SCREWED (Malleable Iron).			Length of opening.	SCREWED (Pressed Steel).				
		Cat. No.	Price per dozen.			Cat. No.	Price per dozen.			
ins.	ins.		£	s.	d.	ins.		£	s.	d.
$\frac{5}{8}$	3½	C 4052		11	8	6	CA 4052		13	0
$\frac{3}{4}$	3½	C 4053		13	4	7	CA 4053		15	8
1	4	C 4055		18	0	8	CA 4055	1	2	8
1¼	6¼	C 4056	1	15	8	9½	CA 4056	1	17	0
1½	10	C 4057	3	6	8	—	—			
2	12	C 4058	5	3	4	—	—			
2½	24	C 4059	18	2	0	—	—			

EXTRAS—Malleable Iron Fittings—Hot Galvanizing or Sherardizing, **15%**.

Pressed Steel    "    "    "    "    "    **20%**.

*No extra for SILVERLAC finish.*

## CONDUIT FITTINGS

### SPLIT NORMAL BENDS



C **4182/9**

Screwed.

Size of conduit.	SCREWED (Malleable Iron).	
	Cat. No.	Price per dozen.
ins.		£ s. d.
$\frac{3}{8}$	C <b>4182</b>	13 0
$\frac{3}{4}$	C <b>4183</b>	15 4
1	C <b>4185</b>	1 2 8
$1\frac{1}{4}$	C <b>4186</b>	1 13 0
$1\frac{1}{2}$	C <b>4187</b>	2 10 0
2	C <b>4188</b>	5 6 8
$2\frac{1}{2}$	C <b>4189</b>	8 9 0

### CHANNEL INSPECTION BENDS



CA **4162/6**

Screwed.



CS **4162/3**

Lug Grip.

Size of conduit.	SCREWED (Pressed Steel).	
	Cat. No.	Price per dozen.
ins.		£ s. d.
$\frac{3}{8}$	CA <b>4162</b>	9 8
$\frac{3}{4}$	CA <b>4163</b>	11 0
1	CA <b>4165</b>	15 0
$1\frac{1}{4}$	CA <b>4166</b>	1 7 4

Size of conduit.	LUG GRIP (Pressed Steel).	
	Cat. No.	Price per dozen.
ins.		s. d.
$\frac{3}{8}$	CS <b>4162</b>	4 0
$\frac{3}{4}$	CS <b>4163</b>	4 6

EXTRAS.—Malleable Iron Fittings—Hot Galvanizing, **15%**.  
Pressed Steel „ „ „ **20%**.

No extra for SILVERLAC finish.

## CONDUIT FITTINGS

### NORMAL BENDS



**C 4101/10**  
Screwed Internal.



**C 4121/9**  
**Screwed External.**

Size of conduit.	SCREWED INTERNAL.			SCREWED EXTERNAL.			LUG GRIP (Pressed Steel).					
	Cat. No.	Price per dozen.			Cat. No.	Price per dozen.			Cat. No.	Price per dozen.		
ins.		£	s.	d.		£	s.	d.			s.	d.
$\frac{1}{2}$	C 4101	4	0		C 4121	4	0		CS 4101	2	8	
$\frac{3}{4}$	C 4102	4	8		C 4122	4	8		CS 4102	2	8	
$\frac{1}{2}$	C 4103	5	0		C 4123	5	0		CS 4103	3	4	
1	C 4105	7	8		C 4125	7	8		—	—	—	
1 $\frac{1}{4}$	C 4106	11	8		C 4126	11	8		—	—	—	
1 $\frac{1}{2}$	C 4107	19	4		C 4127	19	4		—	—	—	
2	C 4108	2	3	8	C 4128	2	3	8	—	—	—	
2 $\frac{1}{2}$	C 4109	6	18	8	C 4129	6	18	8	—	—	—	
3	C 4110	16	0	0	—	—	—	—	—	—	—	

## HALF NORMAL BENDS



**C 4151/8**  
Screwed External.



CS **4141/3**  
Lug Grip.

Size of conduit.	SCREWED INTERNAL.			SCREWED EXTERNAL.			LUG GRIP (Pressed Steel).		
	Cat. No.	Price per dozen.		Cat. No.	Price per dozen.		Cat. No.	Price per dozen.	
ins.		£	s. d.		£	s. d.		s.	d.
$\frac{1}{2}$	C 4141	4	0	C 4151	4	0	CS 4141	3	4
$\frac{3}{8}$	C 4142	4	8	C 4152	4	8	CS 4142	3	4
$\frac{1}{2}$	C 4143	5	0	C 4153	5	0	CS 4143	4	0
1	C 4145	7	8	C 4155	7	8	—	—	—
$1\frac{1}{4}$	C 4146	11	8	C 4156	11	8	—	—	—
$1\frac{1}{2}$	C 4147	19	4	C 4157	19	4	—	—	—
2	C 4148	2	3 8	C 4158	2	3 8	—	—	—

**EXTRAS.—Malleable Iron Fittings—Hot Galvanizing, 15%.**  
**Pressed Steel 20%.**  
*No extra for SILVERLAC finish. "*

# S.E.C.

## CONDUIT FITTINGS INSPECTION NORMAL BENDS



**C 4162/9**  
Screwed.

Size of conduit.	Dimensions of opening.	SCREWED (Malleable Iron).			
		Cat. No.	Price per dozen.		
ins.	ins.		£	s.	d.
$\frac{5}{8}$	$2\frac{3}{8} \times \frac{5}{8}$	C <b>4162</b>		<b>10</b>	<b>0</b>
$\frac{3}{4}$	$2\frac{1}{2} \times \frac{5}{8}$	C <b>4163</b>		<b>11</b>	<b>8</b>
1	$3\frac{1}{4} \times \frac{7}{8}$	C <b>4165</b>		<b>16</b>	<b>0</b>
$1\frac{1}{4}$	$4\frac{7}{8} \times 1$	C <b>4166</b>	<b>1</b>	<b>9</b>	<b>4</b>
$1\frac{1}{2}$	$4\frac{7}{8} \times 1\frac{3}{8}$	C <b>4167</b>	<b>2</b>	<b>4</b>	<b>8</b>
2	$7\frac{1}{4} \times 1\frac{1}{2}$	C <b>4168</b>	<b>3</b>	<b>19</b>	<b>4</b>
$2\frac{1}{2}$	$8\frac{1}{4} \times 2\frac{1}{4}$	C <b>4169</b>	<b>6</b>	<b>4</b>	<b>8</b>

## BACK OUTLET INSPECTION BENDS



**CA 4172/6**

Size of conduit.	SCREWED (Pressed Steel).			
	Cat. No.	Price per dozen.		
ins.		£	s.	d.
$\frac{5}{8}$	CA <b>4172</b>		<b>9</b>	<b>8</b>
$\frac{3}{4}$	CA <b>4173</b>		<b>11</b>	<b>0</b>
1	CA <b>4175</b>		<b>15</b>	<b>0</b>
$1\frac{1}{4}$	CA <b>4176</b>	<b>1</b>	<b>7</b>	<b>4</b>

EXTRAS—Malleable Iron Fittings—Hot Galvanizing, **15%**.  
Pressed Steel    „    „    „    **20%**.

*No extra for SILVERLAC finish.*



## CONDUIT FITTINGS SOLID ELBOWS



**C 4191/9**  
Screwed.



**CS 4191/3**  
Lug Grip.

Size of conduit.	SCREWED (Malleable Iron).			SCREWED (Pressed Steel).		LUG GRIP (Pressed Steel).	
	Cat. No.	Price per dozen.		Cat. No.	Price per dozen.	Cat. No.	Price per dozen.
ins.		£	s. d.		s. d.		s. d.
$\frac{1}{2}$	C 4191	2	0	—	—	CS 4191	1 4
$\frac{3}{4}$	C 4192	2	8	CA 4192	2 4	CS 4192	1 4
$\frac{1}{2}$	C 4193	3	4	CA 4193	3 0	CS 4193	2 8
1	C 4195	6	4	CA 4195	6 0	—	—
$1\frac{1}{4}$	C 4196	12	8	CA 4196	11 8	—	—
$1\frac{1}{2}$	C 4197	1	1 0	—	—	—	—
2	C 4198	1	12 0	—	—	—	—
$2\frac{1}{2}$	C 4199	3	1 0	—	—	—	—

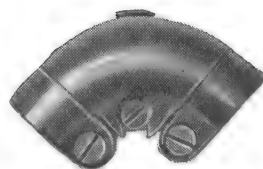
## CHANNEL INSPECTION ELBOWS



**C 4211/9**  
Screwed.



**CA 4212/6**  
Screwed.



**CS 4212/3**  
Lug Grip.

Size of conduit.	SCREWED (Malleable Iron).			SCREWED (Pressed Steel).		LUG GRIP (Pressed Steel).	
	Cat. No.	Price per dozen.		Cat. No.	Price per dozen.	Cat. No.	Price per dozen.
ins.		£	s. d.		s. d.		s. d.
$\frac{1}{2}$	C 4211	4	8	—	—	—	—
$\frac{3}{4}$	C 4212	5	0	CA 4212	4 0	CS 4212	2 8
$\frac{1}{2}$	C 4213	6	0	CA 4213	5 4	CS 4213	3 4
1	C 4215	10	0	CA 4215	10 0	—	—
$1\frac{1}{4}$	C 4216	18	0	CA 4216	17 4	—	—
$1\frac{1}{2}$	C 4217	1	6 0	—	—	—	—
2	C 4218	2	8 0	—	—	—	—
$2\frac{1}{2}$	C 4219	3	1 0	—	—	—	—

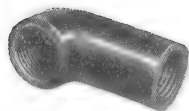
EXTRAS.—Malleable Iron Fittings—Hot Galvanizing, 15%.  
Pressed Steel „ „ „ 20%.

No extra for SILVERLAC finish.

# S.E.C.

## CONDUIT FITTINGS

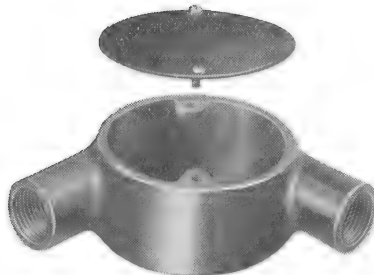
### SHORT ARM ELBOWS



**C 4261/3**  
Screwed.

Size of conduit.	SCREWED (Malleable Iron).		
	Cat. No.	Price per dozen.	
ins.		s.	d.
$\frac{1}{2}$	<b>C 4261</b>	<b>2</b>	<b>8</b>
$\frac{3}{4}$	<b>C 4262</b>	<b>3</b>	<b>4</b>
$1\frac{1}{2}$	<b>C 4263</b>	<b>5</b>	<b>0</b>

### CIRCULAR INSPECTION ELBOWS



**C 4241/5** Screwed.

Size of conduit.	SCREWED (Malleable Iron).		
	Cat. No.	Price per dozen.	
ins.		s.	d.
$\frac{1}{2}$	<b>C 4241</b>	<b>6</b>	<b>0</b>
$\frac{3}{4}$	<b>C 4242</b>	<b>6</b>	<b>0</b>
$1\frac{1}{2}$	<b>C 4243</b>	<b>7</b>	<b>4</b>
1	<b>C 4245</b>	<b>11</b>	<b>4</b>

### TOP OUTLET INSPECTION ELBOWS



### SPLIT ELBOWS



**C 4252/9**  
Screwed.



**C 4232/8**  
Screwed.



**CA 4232/3**  
Screwed.

Size of conduit.	SCREWED (Malleable Iron).		
	Cat. No.	Price per dozen.	
ins.		£	s. d.
$\frac{5}{8}$	<b>C 4252</b>		<b>7 4</b>
$\frac{3}{4}$	<b>C 4253</b>		<b>8 8</b>
1	<b>C 4255</b>		<b>14 8</b>
$1\frac{1}{2}$	<b>C 4256</b>	<b>1</b>	<b>4 8</b>
$1\frac{1}{4}$	<b>C 4257</b>	<b>1</b>	<b>14 0</b>
2	<b>C 4258</b>	<b>2</b>	<b>17 0</b>
$2\frac{1}{2}$	<b>C 4259</b>	<b>4</b>	<b>2 0</b>

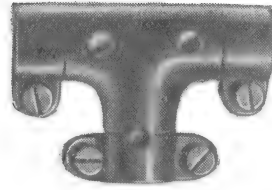
Size of conduit.	SCREWED (Malleable Iron).		SCREWED (Pressed Steel).	
	Cat. No.	Price per dozen.	Cat. No.	Price per dozen.
ins.		£ s. d.		s. d.
$\frac{5}{8}$	<b>C 4232</b>	<b>6 0</b>	<b>CA 4232</b>	<b>5 4</b>
$\frac{3}{4}$	<b>C 4233</b>	<b>7 4</b>	<b>CA 4233</b>	<b>7 0</b>
1	<b>C 4235</b>	<b>12 0</b>	—	—
$1\frac{1}{4}$	<b>C 4236</b>	<b>1 8 8</b>	—	—
$1\frac{1}{2}$	<b>C 4237</b>	<b>2 1 0</b>	—	—
2	<b>C 4238</b>	<b>2 7 4</b>	—	—

EXTRAS.—Malleable Iron Fittings—Hot Galvanizing, 15%.  
 Pressed Steel " " " 20%.  
 No extra for SILVERLAC finish.

## CONDUIT FITTINGS SOLID TEES



**C 4271/9**  
Screwed.



**CS 4271/3**  
Lug Grip.

Size of conduit.	SCREWED (Malleable Iron).			SCREWED (Pressed Steel).		LUG GRIP (Pressed Steel).	
	Cat. No.	Price per dozen.		Cat. No.	Price per dozen.	Cat. No.	Price per dozen.
ins.		£	s. d.		s. d.		s. d.
$\frac{1}{8}$	C 4271	3	0	—	—	CS 4271	1 8
$\frac{1}{4}$	C 4272	3	8	CA 4272	3 4	CS 4272	1 8
$\frac{3}{8}$	C 4273	5	0	CA 4273	4 8	CS 4273	3 0
1	C 4275	10	0	CA 4275	8 8	—	—
$1\frac{1}{4}$	C 4276	18	0	CA 4276	17 0	—	—
$1\frac{1}{2}$	C 4277	1	9 4	—	—	—	—
2	C 4278	2	8 0	—	—	—	—
$2\frac{1}{2}$	C 4279	3	19 4	—	—	—	—

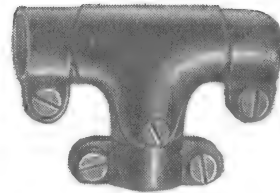
## CHANNEL INSPECTION TEES



**C 4291/9**  
Screwed.



**CA 4292/6**  
Screwed.



**CS 4291/3**  
Lug grip.

Size of conduit.	SCREWED (Malleable Iron).			SCREWED (Pressed Steel).		LUG GRIP (Pressed Steel).	
	Cat. No.	Price per dozen.		Cat. No.	Price per dozen.	Cat. No.	Price per dozen.
ins.		£	s. d.		£ s. d.		s. d.
$\frac{1}{8}$	C 4291	5	0	—	—	CS 4291	3 8
$\frac{1}{4}$	C 4292	5	4	CA 4292	5 0	CS 4292	3 8
$\frac{3}{8}$	C 4293	6	4	CA 4293	6 0	CS 4293	4 4
1	C 4295	12	0	CA 4295	11 4	—	—
$1\frac{1}{4}$	C 4296	1	1 4	CA 4296	1 1 4	—	—
$1\frac{1}{2}$	C 4297	1	16 8	—	—	—	—
2	C 4298	2	8 0	—	—	—	—
$2\frac{1}{2}$	C 4299	4	9 0	—	—	—	—

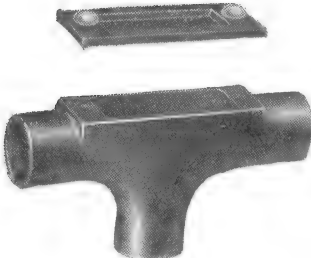
EXTRAS.—Malleable Iron Fittings—Hot Galvanizing, 15%.  
Pressed Steel " " " 20%.  
No extra for SILVERLAC finish.

# S.E.C.

## CONDUIT FITTINGS SHORT ARM TEES CIRCULAR INSPECTION

Size of conduit	SCREWED (Malleable Iron).	
	Cat. No.	Price per dozen.
ins.		s. d.
$\frac{1}{2}$	C 4331	3 4
$\frac{3}{4}$	C 4332	3 8
1	C 4333	5 4

### TOP OUTLET INSPECTION TEES

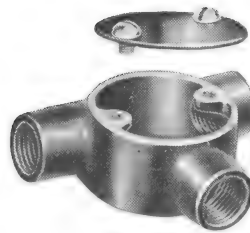


C 4312/8. Screwed.



CA 4312/3. Screwed.

### TEES



C 4341/5. Screwed.

Size of conduit.	SCREWED (Malleable Iron).	
	Cat. No.	Price per dozen.
ins.		s. d.
$\frac{1}{2}$	C 4341	7 4
$\frac{3}{4}$	C 4342	7 4
1	C 4343	9 0
1	C 4345	13 4

### SPLIT TEES



C 4322/9. Screwed.

Size of conduit.	SCREWED (Malleable Iron).		SCREWED (Pressed Steel).	
	Cat. No.	Price per doz.	Cat. No.	Price per doz.
ins.		£ s. d.		s. d.
$\frac{1}{2}$	C 4312	7 4	CA 4312	7 0
$\frac{3}{4}$	C 4313	9 8	CA 4313	9 4
1	C 4315	14 4	—	—
1 $\frac{1}{2}$	C 4316	1 8 8	—	—
1 $\frac{3}{4}$	C 4317	2 6 4	—	—
2	C 4318	2 18 0	—	—

Size of conduit.	SCREWED (Malleable Iron).	
	Cat. No.	Price per dozen.
ins.		£ s. d.
$\frac{1}{2}$	C 4322	1 9 4
$\frac{3}{4}$	C 4323	11 8
1	C 4325	15 8
1 $\frac{1}{2}$	C 4326	1 5 0
1 $\frac{3}{4}$	C 4327	2 7 4
2	C 4328	4 0 0
2 $\frac{1}{2}$	C 4329	5 10 4

### PIN GRIP FITTINGS (Malleable Iron)

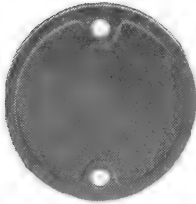
Description.	$\frac{1}{2}$ in.		$\frac{3}{4}$ in.		$1\frac{1}{2}$ in.	
	Cat. No.	Price per gross.	Cat. No.	Price per gross.	Cat. No.	Price per gross.
Solid couplers ..	CP 4001	£ 17 4	CP 4002	£ 17 8	CP 4003	£ 1 7 8
Normal bends ..	CP 4101	1 18 0	CP 4102	1 18 8	CP 4103	2 11 0
Half-normal bends	CP 4141	1 18 0	CP 4142	1 18 8	CP 4143	2 11 0
Solid elbows ..	CP 4191	1 0 8	CP 4192	1 0 8	CP 4193	1 15 8
Inspection elbows .	CP 4211	2 1 8	CP 4212	2 3 8	CP 4213	2 13 8
Solid tees ..	CP 4271	1 8 4	CP 4272	1 8 8	CP 4273	2 10 8
Inspection tees ..	CP 4291	2 7 8	CP 4292	2 8 4	CP 4293	3 10 8

A large range of other Pin Grip fittings are available. Particulars on application.  
No extra for SILVERLAC finish.

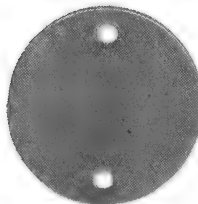
**CONDUIT FITTINGS  
JUNCTION BOX ACCESSORIES  
(2-In. Centres)**

For Small and Universal Junction Boxes (pp. 262/264 and 269/270) and Small and Medium Looping Boxes and Collar Extension Pieces (p. 272).

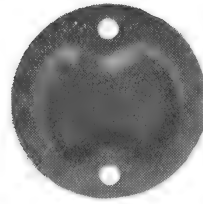
**COVERS AND HOOKS**



**C 4502**  
Malleable Iron.



**C 4504**  
Fibre.



**C 4500**  
Recessed.

Cat. No.	Description.	Price, per doz.	
		s.	d.
<b>C 4500</b>	Recessed sheet .. ..	<b>1</b>	<b>8</b>
<b>C 4501</b>	Plain sheet .. ..	<b>1</b>	<b>0</b>
<b>C 4502</b>	Heavy malleable iron ..	<b>2</b>	<b>8</b>
<b>C 4503</b>	Hard cast iron .. ..	<b>2</b>	<b>4</b>
<b>C 4504</b>	Fibre .. ..	<b>2</b>	<b>8</b>



**C 4506**  
Tapped.



**C 4508**  
Ball and Socket.

Cat. No.	Description.	Tapping.	Price, per doz.	
			s.	d.
<b>CA 4506</b>	Pressed steel ..	$\frac{1}{8}$ " or $\frac{1}{4}$ " E.T.	<b>4</b>	<b>8</b>
<b>C 4506</b>	Malleable iron, domed ..	$\frac{1}{8}$ ", 1 or $\frac{1}{4}$ " E.T. or $\frac{1}{2}$ " gas..	<b>5</b>	<b>0</b>
<b>C 4507</b>	Do. do. ..	Do. Screwed male ..	<b>5</b>	<b>0</b>
<b>C 4508</b>	Ball and Socket..	$\frac{1}{8}$ " or $\frac{1}{4}$ " E.T. or $\frac{1}{2}$ " Gas	<b>13</b>	<b>4</b>



**C 4505**  
Malleable Iron.

Cat. No.	Description.	Screwed.	Price per doz.	
			s.	d.
<b>C 4505</b>	Malleable iron, domed with hook .. ..	—	<b>8</b>	<b>0</b>
<b>C 4509</b>	Malleable iron with hook ..	$\frac{1}{8}$ " or $\frac{1}{4}$ " E.T.	<b>5</b>	<b>4</b>
	Do. ..	$\frac{1}{2}$ " gas	<b>6</b>	<b>0</b>



**C 4509**  
Malleable Iron.

NOTE.—Covers Cat. Nos. **C 4500/8** are supplied with screws.

EXTRAS.—Hot Galvanizing, **25%** ; Sherardizing, **25%**.

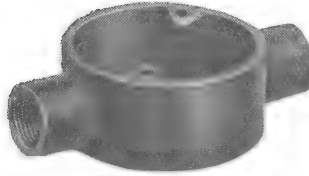
*No extra for SILVERLAC finish.*

## CONDUIT FITTINGS

### SMALL ROUND JUNCTION BOXES WITHOUT COVERS

**Screwed only.**

For Covers, etc., see page 261; for Biscuit Rings see page 272; for Connecting Bases, etc., see page 308.



These fittings comply with British Standard Specification No. 31 where applicable.

**C 4381/5** Through Screwed.

Size of conduit.	Type.	TERMINAL.					
		SCREWED (M.I.).		SCREWED (Pressed Steel).		LUG GRIP (P.S.).	
		Cat. No.	Price per doz.	Cat. No.	Price per doz.	Cat. No.	Price per doz.
ins. 1 1/2		C 4351	8 0	—	—	CS 4351	8 4
1		C 4352	8 0	CA 4352	7 8	CS 4352	8 4
		C 4353	8 0	CA 4353	7 8	CS 4353	9 4
		C 4355	10 4	CA 4355	10 4	—	—

Size of conduit.	Type.	BACK OUTLET.					
		SCREWED (M.I.).		SCREWED (Pressed Steel).		LUG GRIP (P.S.).	
		Cat. No.	Price per doz.	Cat. No.	Price per doz.	Cat. No.	Price per doz.
ins. 1 1/2		C 4361	8 0	—	—	CS 4361	8 4
1		C 4362	8 0	CA 4362	7 8	CS 4362	8 4
		C 4363	8 0	CA 4363	7 8	CS 4363	9 4
		C 4365	10 4	CA 4365	10 4	—	—

Size of conduit.	Type.	TERMINAL AND BACK OUTLET.					
		SCREWED (M.I.).		SCREWED (Pressed Steel).		LUG GRIP (P.S.).	
		Cat. No.	Price per doz.	Cat. No.	Price per doz.	Cat. No.	Price per doz.
ins. 1 1/2		C 4371	9 0	—	—	—	—
1		C 4372	9 0	CA 4372	8 8	CS 4372	9 4
		C 4373	9 0	CA 4373	8 8	CS 4373	10 4
		C 4375	12 8	CA 4375	12 8	—	—

Size of conduit.	Type.	THROUGH.					
		SCREWED (M.I.).		SCREWED (Pressed Steel).		LUG GRIP (P.S.).	
		Cat. No.	Price per doz.	Cat. No.	Price per doz.	Cat. No.	Price per doz.
ins. 1 1/2		C 4381	9 0	—	—	CS 4381	9 4
1		C 4382	9 0	CA 4382	8 8	CS 4382	9 4
		C 4383	9 0	CA 4383	8 8	CS 4383	10 4
		C 4385	12 8	CA 4385	12 8	—	—

Size of conduit.	Type.	THROUGH AND BACK OUTLET.					
		SCREWED (M.I.).		SCREWED (Pressed Steel).		LUG GRIP (P.S.).	
		Cat. No.	Price per doz.	Cat. No.	Price per doz.	Cat. No.	Price per doz.
ins. 1 1/2		C 4391	10 0	—	—	—	—
1		C 4392	10 0	CA 4392	9 8	CS 4392	10 4
		C 4393	10 0	CA 4393	9 8	CS 4393	11 4
		C 4395	14 0	CA 4395	14 0	—	—

EXTRAS.—Malleable Iron Fittings—Hot Galvanizing or Sherardizing, 25%.  
Pressed Steel " " " " " 20%.

No extra for SILVERLAC finish.

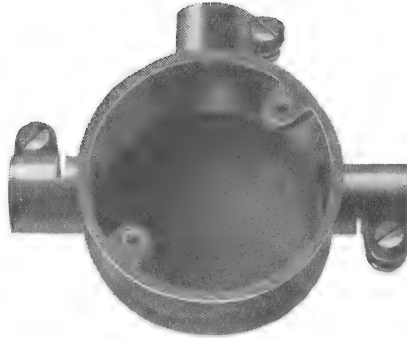
# CONDUIT FITTINGS

## SMALL ROUND JUNCTION BOXES

### WITHOUT COVERS

**Screwed only.**

These fittings comply with British Standard Specification No. 31 where applicable.  
For Covers, etc., see page 261 ; for Biscuit Rings see page 272 ; for Connecting Bases, etc., see page 308.



**CS 4461/3 Lug Grip.**

Size of conduit.	Type.	ANGLE.					
		SCREWED (M.I.).		SCREWED (Pressed Steel)		LUG GRIP (P.S.).	
		Cat. No.	Price per doz.	Cat. No.	Price per doz.	Cat. No.	Price per doz.
ins. 1 1/2		C 4401	9 0	—	—	CS 4401	9 4
1		C 4402	9 0	CA 4402	8 8	CS 4402	9 4
		C 4403	9 0	CA 4403	8 8	CS 4403	10 4
		C 4405	12 8	CA 4405	12 8	—	—

Size of conduit.	Type.	ANGLE AND BACK OUTLET.					
		SCREWED (M.I.).		SCREWED (Pressed Steel).		LUG GRIP (P.S.).	
		Cat. No.	Price per doz.	Cat. No.	Price per doz.	Cat. No.	Price per doz.
ins. 1 1/2		C 4411	10 0	—	—	—	—
1		C 4412	10 0	CA 4412	9 8	CS 4412	10 4
		C 4413	10 0	CA 4413	9 8	CS 4413	11 4
		C 4415	14 0	CA 4415	14 0	—	—

Size of conduit.	Type.	TANGENT PATTERN ANGLE.			
		SCREWED (M.I.).		SCREWED (Pressed Steel).	
		Cat. No.	Price per doz.	Cat. No.	Price per doz.
ins. 1 1/2		C 4421	9 0	—	—
1		C 4422	9 0	CA 4422	8 8
		C 4423	9 0	CA 4423	8 8
		C 4425	12 8	CA 4425	12 8

Size of conduit.	Type.	TANGENT PATTERN TEE.			
		SCREWED (M.I.).		SCREWED (Pressed Steel).	
		Cat. No.	Price per doz.	Cat. No.	Price per doz.
ins. 1 1/2		C 4441	10 0	—	—
1		C 4442	10 0	CA 4442	9 8
		C 4443	10 0	CA 4443	9 8
		C 4445	14 0	CA 4445	14 0

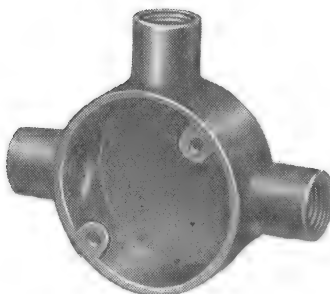
EXTRAS.—Malleable Iron Fittings—Hot Galvanizing, 25%.  
Pressed Steel " " " 20%.  
No extra for SILVERLAC finish.

## CONDUIT FITTINGS SMALL ROUND JUNCTION BOXES WITHOUT COVERS

**Screwed only.**

These fittings comply with British Standard Specification No. 31 where applicable.

For Covers, etc., see page 261 ; for Biscuit Rings see page 272 ; for Connecting Bases, etc., see page 308.



CA 4462/5 Screwed.

Size of conduit.	Type.	TEE.					
		SCREWED (M.I.).		SCREWED (Pressed Steel).		LUG GRIP (P.S.).	
		Cat. No.	Price per doz.	Cat. No.	Price per doz.	Cat. No.	Price per doz.
Ins. 1 1/2 to 4		C 4461	10 0	—	—	CS 4461	10 4
1		C 4462	10 0	CA 4462	9 8	CS 4462	10 4
		C 4463	10 0	CA 4463	9 8	CS 4463	11 4
		C 4465	14 0	CA 4465	14 0	—	—

Size of conduit.	Type.	TEE AND BACK OUTLET.					
		SCREWED (M.I.).		SCREWED (Pressed Steel).		LUG GRIP (P.S.).	
		Cat. No.	Price per doz.	Cat. No.	Price per doz.	Cat. No.	Price per doz.
Ins. 1 1/2 to 4		C 4471	11 0	—	—	CS 4471	11 4
1		C 4472	11 0	CA 4472	10 8	CS 4472	11 4
		C 4473	11 0	CA 4473	10 8	CS 4473	12 4
		C 4475	15 4	CA 4475	15 4	—	—

Size of conduit.	Type.	INTERSECTION.					
		SCREWED (M.I.).		SCREWED (Pressed Steel).		LUG GRIP (P.S.).	
		Cat. No.	Price per doz.	Cat. No.	Price per doz.	Cat. No.	Price per doz.
Ins. 1 1/2 to 4		C 4481	11 0	—	—	CS 4481	11 4
1		C 4482	11 0	CA 4482	10 8	CS 4482	11 4
		C 4483	11 0	CA 4483	10 8	CS 4483	12 4
		C 4485	15 4	CA 4485	15 4	—	—

Size of conduit.	Type.	INTERSECTION AND BACK OUTLET.					
		SCREWED (M.I.).		SCREWED (Pressed Steel).		LUG GRIP (P.S.).	
		Cat. No.	Price per doz.	Cat. No.	Price per doz.	Cat. No.	Price per doz.
Ins. 1 1/2 to 4		C 4491	11 8	—	—	CS 4491	11 4
1		C 4492	11 8	CA 4492	11 8	CS 4492	12 4
		C 4493	11 8	CA 4493	11 8	CS 4493	13 4
		C 4495	18 0	CA 4495	18 0	—	—

EXTRAS.—Malleable Iron Fittings—Hot Galvanizing 25%.  
Pressed Steel " " " 20%.

No extra for SILVERLAC finish.



# CONDUIT FITTINGS LARGE ROUND JUNCTION BOXES (MALLEABLE IRON)

## WITHOUT COVERS

**Screwed only.**

These fittings comply with British Standard Specification No. 31 where applicable.

For Covers, etc., see page 261; for Biscuit Rings see page 272; for Connecting Bases, etc., see page 308.

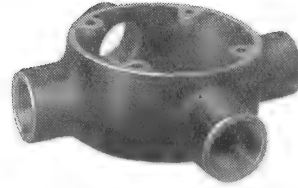
Internal dimensions :—

$\frac{5}{8}$ ,  $\frac{3}{4}$  and 1-in. boxes,  $3\frac{3}{16} \times 1\frac{1}{8}$  ins.

1 $\frac{1}{4}$ -in. boxes,  $3\frac{3}{16} \times 1\frac{1}{2}$  ins.

1 $\frac{1}{2}$ -in. boxes,  $3\frac{3}{16} \times 1\frac{3}{4}$  ins.

2-in. boxes,  $4 \times 2\frac{1}{2}$  ins.



**C 4612/8 Intersection Screwed.**

Size of conduit.	TERMINAL.			THROUGH.		
	Type.	Cat. No.	Price per doz.	Type.	Cat. No.	Price per doz.
Ins.			£ s. d.			£ s. d.
$\frac{5}{8}$		C 4522	15 0		C 4552	15 8
$\frac{3}{4}$		C 4523	16 0		C 4553	16 8
1		C 4525	18 0		C 4555	19 8
1 $\frac{1}{4}$		C 4526	1 2 4		C 4556	1 6 8
1 $\frac{1}{2}$		C 4527	1 6 8		C 4557	1 11 4
2		C 4528	2 6 0		C 4558	2 15 4

Size of conduit.	ANGLE.			TANGENT PATTERN ANGLE.		
	Type.	Cat. No.	Price per doz.	Type.	Cat. No.	Price per doz.
Ins.			£ s. d.			£ s. d.
$\frac{5}{8}$		C 4572	15 8		C 4582	15 8
$\frac{3}{4}$		C 4573	16 8		C 4583	16 8
1		C 4575	19 8		C 4585	19 8
1 $\frac{1}{4}$		C 4576	1 6 8		C 4586	1 6 8
1 $\frac{1}{2}$		C 4577	1 11 4		C 4587	1 11 4
2		C 4578	2 15 4		C 4588	2 15 4

Size of conduit.	TEE.			TANGENT PATTERN TEE.			INTERSECTION.		
	Type.	Cat. No.	Price per doz.	Type.	Cat. No.	Price per doz.	Type.	Cat. No.	Price per doz.
Ins.			£ s. d.			£ s. d.			£ s. d.
$\frac{5}{8}$		C 4592	16 8		C 4602	16 8		C 4612	18 4
$\frac{3}{4}$		C 4593	18 0		C 4603	18 0		C 4613	19 4
1		C 4595	1 1 4		C 4605	1 1 4		C 4615	1 4 0
1 $\frac{1}{4}$		C 4596	1 12 0		C 4606	1 12 0		C 4616	1 13 4
1 $\frac{1}{2}$		C 4597	1 19 4		C 4607	1 19 4		C 4617	2 10 0
2		C 4598	3 2 4		C 4608	3 2 4		C 4618	4 0 0

## COVERS, ETC.

### Sheet Steel Covers and Screws :—

For  $\frac{5}{8}$ ,  $\frac{3}{4}$ , 1, 1 $\frac{1}{4}$ , and 1 $\frac{1}{2}$ -in. boxes, Cat. No. C 4630, 3s. 4d. per dozen.

For 2-in. boxes, Cat. No. C 4631, 4s. 0d. per dozen.

### Malleable Cast Iron Covers and Screws :—

For  $\frac{5}{8}$ ,  $\frac{3}{4}$ , 1, 1 $\frac{1}{4}$ , and 1 $\frac{1}{2}$ -in. boxes, Cat. No. C 4632, 7s. 4d. per dozen.

For 2-in. boxes, Cat. No. C 4633, 12s. 8d. per dozen.

### Fibre Covers and Screws :—

For  $\frac{5}{8}$ ,  $\frac{3}{4}$ , 1, 1 $\frac{1}{4}$ , and 1 $\frac{1}{2}$ -in. boxes, Cat. No. C 4634, 7s. 4d. per dozen.

For 2-in. boxes, Cat. No. C 4635, 10s. 0d. per dozen.

### Malleable Iron Domed Tapped Covers and Screws :—

For  $\frac{5}{8}$ ,  $\frac{3}{4}$ , 1, 1 $\frac{1}{4}$ , and 1 $\frac{1}{2}$ -in. boxes, Cat. No. C 4636, 10s. 0d. per dozen.

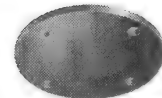
### Rubber Rings :—

For  $\frac{5}{8}$ ,  $\frac{3}{4}$ , 1, 1 $\frac{1}{4}$ , and 1 $\frac{1}{2}$ -in. boxes, Cat. No. C 4638, 2s. 0d. per dozen.

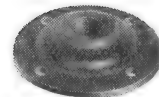
For 2-in. boxes, Cat. No. C 4639, 2s. 8d. per dozen.

EXTRAS.—Hot Galvanizing, 25%; Sherardizing, 25%; Screwed Gas Thread, 10%.

No extra for SILVERLAC finish.



**C 4632/3**  
Malleable Cast Iron.



**C 4636**  
Malleable Iron  
Domed Tapped.

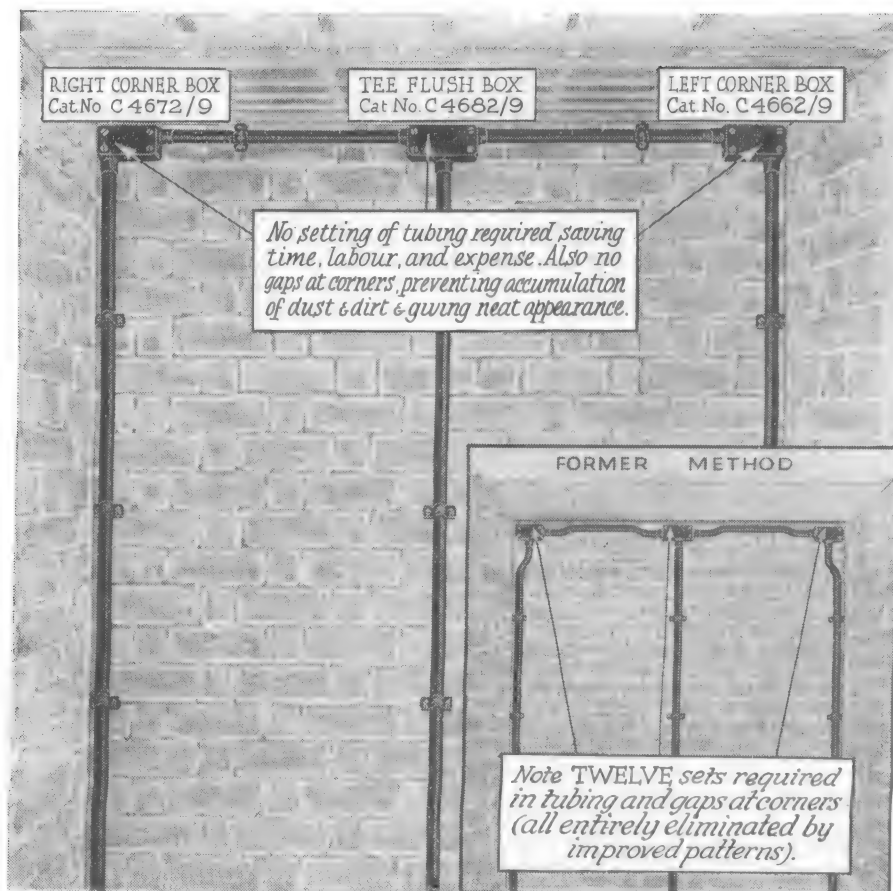
**S.E.C.**

## CONDUIT FITTINGS

**New and Improved Labour-saving Pattern**

### OBLONG JUNCTION BOXES

**(MALLEABLE IRON)**



*For particulars and prices  
see pages 267-268.*

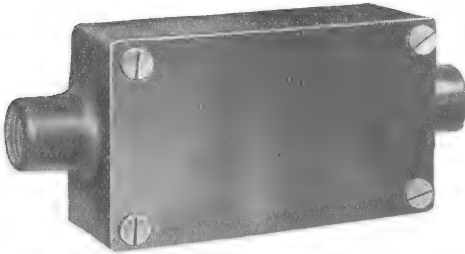
# CONDUIT FITTINGS

## OBLONG JUNCTION BOXES

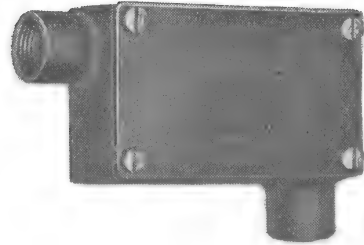
### (MALLEABLE IRON)

### WITH COVERS

These fittings comply with British Standard Specification No. 31 where applicable.



**C 4652/9**  
Through—Screwed.



**C 4662/9**  
Left Corner—Screwed.

**Internal Dimensions.**— $\frac{3}{4}$ ,  $\frac{1}{2}$  and 1-in. boxes,  $3\frac{1}{2} \times 2 \times 1\frac{1}{2}$  in.;  $1\frac{1}{2}$  and  $1\frac{1}{2}$ -in. boxes,  $5\frac{1}{2} \times 2\frac{1}{2} \times 1\frac{1}{2}$  in.; 2-in. boxes,  $9\frac{1}{2} \times 4\frac{1}{2} \times 2\frac{1}{2}$  in.;  $2\frac{1}{2}$ -in. boxes,  $9\frac{1}{2} \times 4\frac{1}{2} \times 2\frac{1}{2}$  in.

**Covers.**— $\frac{3}{4}$ ,  $\frac{1}{2}$  and 1-in. boxes are supplied with Sheet Steel Covers;  $1\frac{1}{2}$ ,  $1\frac{1}{2}$ , 2 and  $2\frac{1}{2}$ -in. boxes are supplied with Malleable Cast Iron Covers. If required,  $\frac{3}{4}$ ,  $\frac{1}{2}$  and 1-in. boxes can be supplied with Malleable Cast Iron Covers at 8s. 0d. per dozen extra.

Size of conduit.	Type.	THROUGH.	
		SCREWED.	
		Cat. No.	Price per dozen.
ins.			£ s. d.
$\frac{3}{4}$		C 4652	19 8
$\frac{1}{2}$		C 4653	1 0 8
1		C 4655	1 1 4
$1\frac{1}{2}$		C 4656	2 3 8
$1\frac{1}{2}$		C 4657	2 8 0
2		C 4658	7 13 0
$2\frac{1}{2}$		C 4659	12 0 0

Size of conduit.	Type.	LEFT CORNER.	
		SCREWED.	
		Cat. No.	Price per dozen.
ins.			£ s. d.
$\frac{3}{4}$		C 4662	19 8
$\frac{1}{2}$		C 4663	1 0 8
1		C 4665	1 1 4
$1\frac{1}{2}$		C 4666	2 3 8
$1\frac{1}{2}$		C 4667	2 8 0
2		C 4668	7 13 0
$2\frac{1}{2}$		C 4669	12 0 0

**Rubber Rings.**—For  $\frac{3}{4}$ ,  $\frac{1}{2}$  and 1-in. boxes, Cat. No. C 4720, 2s. 4d. per dozen;  $1\frac{1}{2}$  and  $1\frac{1}{2}$ -in. boxes, Cat. No. C 4721, 4s. 8d. per dozen; 2 and  $2\frac{1}{2}$ -in. boxes, Cat. No. C 4722, 9s. 0d. per dozen.

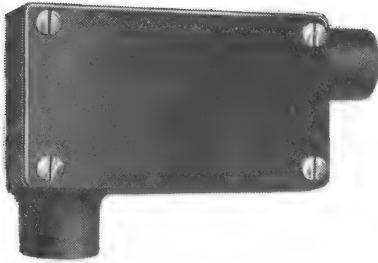
For Connecting Bases, etc., see page 308.

EXTRAS.—Hot Galvanizing, 15%; Sherardizing, 15%; Screwed Gas Thread, 10%.

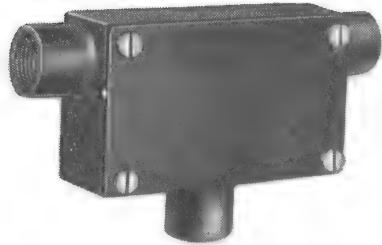
No extra for SILVERLAC finish.

## CONDUIT FITTINGS OBLONG JUNCTION BOXES (MALLEABLE IRON) WITH COVERS

These fittings comply with British Standard Specification No. 31 where applicable.




**C 4672/9**  
Right Corner—Screwed.




**C 4682/9**  
Tee Flush—Screwed.

**Internal Dimensions.**— $\frac{3}{8}$ ,  $\frac{1}{2}$  and 1-in. boxes,  $3\frac{1}{2} \times 2 \times 1\frac{1}{2}$  in.;  $1\frac{1}{2}$  and  $1\frac{1}{2}$ -in. boxes,  $5\frac{1}{2} \times 2\frac{1}{2} \times 1\frac{1}{2}$  in.; 2-in. boxes,  $9\frac{1}{2} \times 4\frac{1}{2} \times 2\frac{1}{2}$  in.;  $2\frac{1}{2}$ -in. boxes,  $9\frac{1}{2} \times 4\frac{1}{2} \times 2\frac{1}{2}$  in.

**Covers.**— $\frac{3}{8}$ ,  $\frac{1}{2}$  and 1-in. boxes are supplied with Sheet Steel Covers;  $1\frac{1}{2}$ ,  $1\frac{1}{2}$ , 2 and  $2\frac{1}{2}$ -in. boxes are supplied with Malleable Cast Iron Covers. If required,  $\frac{3}{8}$ ,  $\frac{1}{2}$  and 1-in. boxes can be supplied with Malleable Cast Iron Covers at 6s. 0d. per dozen extra.

Size of conduit.	Type.	RIGHT CORNER.			Type.	TEE FLUSH.			
		SCREWED.				SCREWED.			
		Cat. No.	Price per dozen.			Cat. No.	Price per dozen.		
ins.			£	s.	d.		£	s.	d.
$\frac{3}{8}$		C 4672	19	8		C 4682	1	0	8
$\frac{1}{2}$		C 4673	1	0	8	C 4683	1	1	4
1		C 4675	1	1	4	C 4685	1	3	4
$1\frac{1}{2}$		C 4676	2	3	8	C 4686	2	6	4
$1\frac{1}{2}$		C 4677	2	8	0	C 4687	2	12	8
2		C 4678	7	13	0	C 4688	8	5	4
$2\frac{1}{2}$		C 4679	12	0	0	C 4689	13	17	8

Size of conduit.	Type.	INTERSECTION.			Type.	ANGLE.			Type.	TEE.			
		SCREWED.				SCREWED.				SCREWED.			
		Cat. No.	Price doz.			Cat. No.	Price doz.			Cat. No.	Price doz.		
ins.			£	s.	d.		£	s.	d.		£	s.	d.
$\frac{3}{8}$		C 4692	1	1	4	C 4702	19	8		C 4712	1	0	8
$\frac{1}{2}$		C 4693	1	2	8	C 4703	1	0	8	C 4713	1	1	4
1		C 4695	1	15	0	C 4705	1	1	4	C 4715	1	3	4
$1\frac{1}{2}$		C 4696	2	10	0	C 4706	2	3	8	C 4716	2	6	4
$1\frac{1}{2}$		C 4697	2	18	8	C 4707	2	8	0	C 4717	2	12	8
2		C 4698	8	10	8	C 4708	7	13	0	C 4718	8	5	4
$2\frac{1}{2}$		C 4699	14	18	8	—	—	—	—	—	—	—	—

**Rubber Rings.**—For  $\frac{3}{8}$ ,  $\frac{1}{2}$  and 1-in. boxes, Cat. No. C 4720, 2s. 4d. per dozen;  $1\frac{1}{2}$  and  $1\frac{1}{2}$ -in. boxes, Cat. No. C 4721, 4s. 8d. per dozen; 2 and  $2\frac{1}{2}$ -in. boxes, Cat. No. C 4722, 8s. 0d. per dozen.

For Connecting Bases, etc., see page 308.

**EXTRAS.**—Hot Galvanizing, 15%; Sherardizing, 15%; Screwed Gas Thread, 10%.

No extra for SILVERLAC finish.

## CONDUIT FITTINGS "GENALEX" PRESSED STEEL UNIVERSAL JUNCTION BOXES WITHOUT COVERS Screwed only.

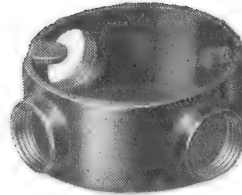
For Covers for use with these boxes, see page 261 ; for Biscuit Rings and Collar Extension Pieces, see page 272.

These boxes are substantial Pressed Steel. The back outlet type has a boss in the bottom of the box with four full threads for holding tubing.


**Internal dimensions.** —  $\frac{3}{4}$  and  $\frac{1}{2}$ -in. boxes,  $2\frac{3}{8} \times 1$  in. deep ; 1-in. boxes,  $2\frac{3}{8} \times 1\frac{1}{8}$  in. deep.



Fixing Centres, 2 in.



Tapped 2 B.A. thread.







CA 4812/5 Tee.



Size of conduit.	TERMINAL.		
	Type.	Cat. No.	Price per dozen.
ins. $\frac{3}{4}$ $\frac{1}{2}$ 1		CA 4742 CA 4743 CA 4745	s. d. 3 8 3 8 6 0

Size of conduit.	BACK OUTLET.			TERMINAL & BACK OUTLET.		
	Type.	Cat. No.	Price per doz.	Type.	Cat. No.	Price per doz.
ins. $\frac{3}{4}$ $\frac{1}{2}$ 1		CA 4752 CA 4753 CA 4755	s. d. 3 8 3 8 6 0		CA 4762 CA 4763 CA 4765	s. d. 4 0 4 0 6 4

Size of conduit.	THROUGH.			THROUGH & BACK OUTLET.		
	Type.	Cat. No.	Price per doz.	Type.	Cat. No.	Price per doz.
ins. $\frac{3}{4}$ $\frac{1}{2}$ 1		CA 4772 CA 4773 CA 4775	s. d. 3 8 3 8 6 0		CA 4782 CA 4783 CA 4785	s. d. 4 0 4 0 6 4

Size of conduit.	ANGLE.			ANGLE & BACK OUTLET.		
	Type.	Cat. No.	Price per doz.	Type.	Cat. No.	Price per doz.
ins. $\frac{3}{4}$ $\frac{1}{2}$ 1		CA 4792 CA 4793 CA 4795	s. d. 3 8 3 8 6 0		CA 4802 CA 4803 CA 4805	s. d. 4 0 4 0 6 4

Size of conduit.	TEE.			TEE & BACK OUTLET.		
	Type.	Cat. No.	Price per doz.	Type.	Cat. No.	Price per doz.
ins. $\frac{3}{4}$ $\frac{1}{2}$ 1		CA 4812 CA 4813 CA 4815	s. d. 3 8 3 8 6 0		CA 4822 CA 4823 CA 4825	s. d. 4 0 4 0 6 4

Size of conduit.	INTERSECTION.			INTERSECTION & BACK OUTLET.		
	Type.	Cat. No.	Price per doz.	Type.	Cat. No.	Price per doz.
ins. $\frac{3}{4}$ $\frac{1}{2}$ 1		CA 4832 CA 4833 CA 4835	s. d. 3 8 3 8 6 0		CA 4842 CA 4843 CA 4845	s. d. 4 0 4 0 6 4

EXTRAS.—Hot Galvanizing, 20% ; Sherardizing, 20%.

No extra for SILVERLAC finish.

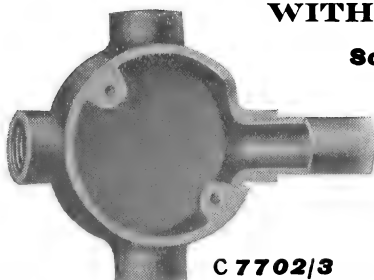


## CONDUIT FITTINGS

### BOXES WITH BUSHED SPOUTS

#### WITHOUT COVERS

**Screwed only.**



**C 7702/3**

Size of conduit.	TERMINAL.		
	Type.	Cat. No.	Price per doz.
ins. $\frac{5}{8}$ $\frac{3}{4}$		C 7602 C 7603	s. d. 5 4 5 4

Size of conduit.	BACK OUTLET.			TERMINAL & BACK OUTLET.		
	Type.	Cat. No.	Price per doz.	Type.	Cat. No.	Price per doz.
ins. $\frac{5}{8}$ $\frac{3}{4}$		C 7612 C 7613	s. d. 5 4 5 4		C 7622 C 7623	s. d. 5 8 5 8

Size of conduit.	THROUGH.			THROUGH & BACK OUTLET.		
	Type.	Cat. No.	Price per doz.	Type.	Cat. No.	Price per doz.
ins. $\frac{5}{8}$ $\frac{3}{4}$		C 7632 C 7633	s. d. 5 8 5 8		C 7642 C 7643	s. d. 6 0 6 0

Size of conduit.	ANGLE.			ANGLE & BACK OUTLET.		
	Type.	Cat. No.	Price per doz.	Type.	Cat. No.	Price per doz.
ins. $\frac{5}{8}$ $\frac{3}{4}$		C 7652 C 7653	s. d. 5 8 5 8		C 7662 C 7663	s. d. 6 0 6 0

Size of conduit.	TEE.			TEE & BACK OUTLET.		
	Type.	Cat. No.	Price per doz.	Type.	Cat. No.	Price per doz.
ins. $\frac{5}{8}$ $\frac{3}{4}$		C 7682 C 7683	s. d. 6 0 6 0		C 7692 C 7693	s. d. 6 4 6 4

Size of conduit.	INTERSECTION.			INTERSECTION & BACK OUTLET.		
	Type.	Cat. No.	Price per doz.	Type.	Cat. No.	Price per doz.
ins. $\frac{5}{8}$ $\frac{3}{4}$		C 7702 C 7703	s. d. 6 4 6 4		C 7712 C 7713	s. d. 6 8 6 8

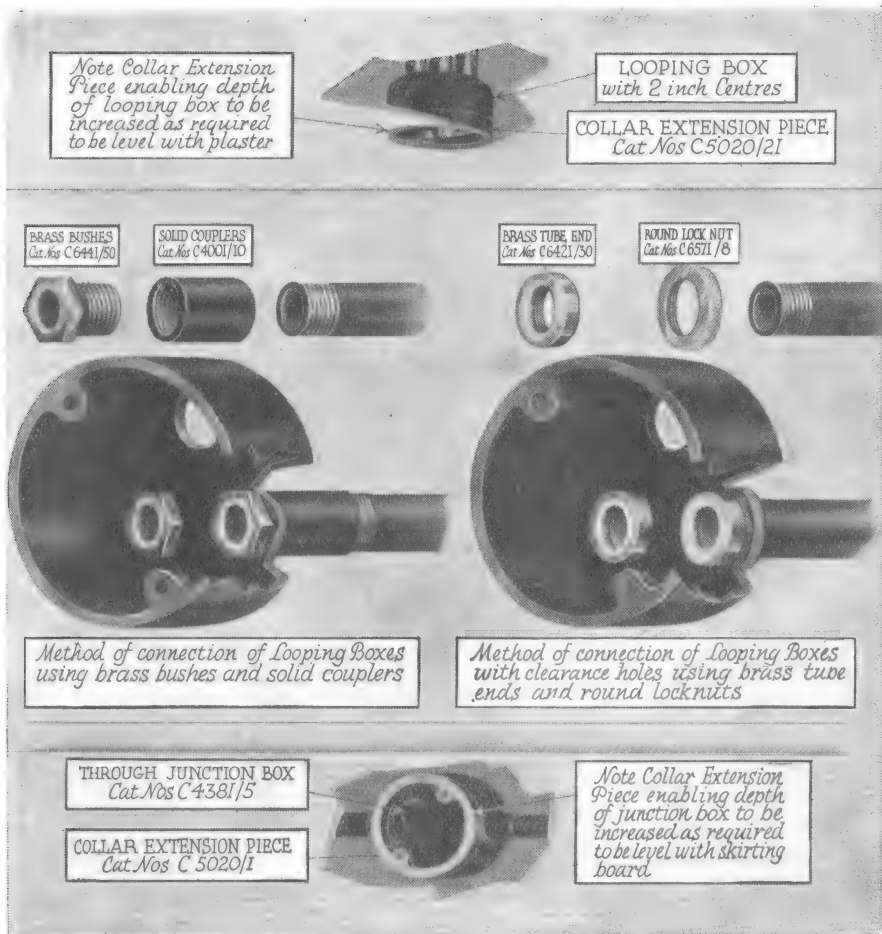
EXTRAS.—Hot Galvanizing, 20% ; Sherardizing, 20%.

*No extra for SILVERLAC finish.*

## CONDUIT FITTINGS

**New and Improved Labour-saving Pattern**

### LOOPING BOXES AND COLLAR EXTENSION PIECES



*For particulars and prices of above, see following pages.*

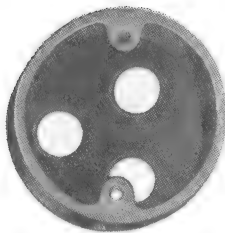
*For particulars and prices of Solid Couplers, see page 251.*

*For Brass Bushes, Brass Tube Ends, and Round Lock Nuts, see pages 299/301.*

## CONDUIT FITTINGS

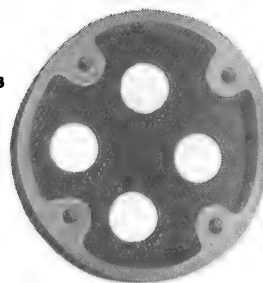
### LOOPING BOXES

(See also illustration on previous page.)



Internal dimensions : Small,  $2\frac{3}{8}" \times 1\frac{1}{8}"$   
Medium  $2\frac{1}{2}" \times 1\frac{1}{2}"$ ; Tapped 2" centres.

Internal dimensions : Large,  $3\frac{3}{8}" \times 1\frac{1}{8}"$  deep ; Tapped  $2\frac{1}{8}"$  centres.



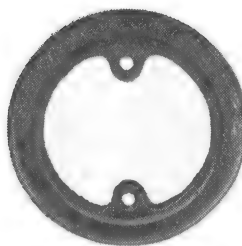
**CS 4950/73** Medium.

**C 4980/93** Large.

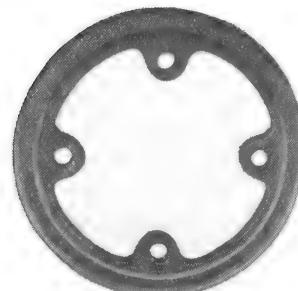
Clearance Outlets.		SMALL (Pressed Steel)		MEDIUM (Pressed Steel).		LARGE (Malleable Iron).	
Size.	Number.	Cat. No.	Price per gross.	Cat. No.	Price per gross.	Cat. No.	Price per dozen.
ins.			s. d.		s. d.		s. d.
$\frac{1}{2}$	1	CS 4930		CS 4950		—	—
$\frac{3}{4}$	1	CS 4931		CS 4951		—	—
1	2	CS 4932	50 0	CS 4952		C 4980	17 4
$1\frac{1}{4}$	2	CS 4933		CS 4953	88 0	C 4981	17 4
$1\frac{3}{4}$	3	CS 4942		CS 4962		C 4982	17 4
2	3	CS 4943		CS 4963		C 4983	17 4
$2\frac{1}{4}$	4	—	—	CS 4972		C 4992	17 4
$2\frac{3}{4}$	4	—	—	CS 4973		C 4993	17 4
		Extra : Galv. 20%		Extra : Galv. 20%		Extra : Galv. 25%	

For Biscuit Rings see below ; for Collar Extension Pieces see next page ; for Solid Couplers see page 251 ; for Brass Bushes, Lock Nuts and Tube Ends see pages 299/301 ; for Connecting Bases, etc., see page 308.

*No extra for SILVERLAC finish.*



### BISCUIT RINGS (SILVERLAC FINISH)



**C 5001** 2-in. centres.

**C 5003**  $2\frac{1}{8}$ -in. centres.

Cat. No.	Description.	Price per dozen.	
		s.	d.
<b>C 5000</b>	For semi-recessed switch boxes (see pages 282/284)	<b>2</b>	<b>0</b>
<b>C 5001</b>	For small boxes with 2-in. centres (see pages 262/264, 269, and above) .. .. .	<b>2</b>	<b>0</b>
<b>C 5003</b>	For large looping boxes (see above) or B.S.S. boxes (see page 265) with $2\frac{1}{8}$ -in. centres .. .. .	<b>4</b>	<b>8</b>



## CONDUIT FITTINGS

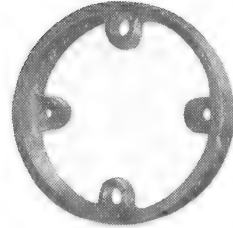
### COLLAR EXTENSION PIECES

(MALLEABLE IRON)

**For Boxes with 2-in. Centres.**

(See also illustration on page 271.)

These Collar Extension Pieces will be found very useful for ceiling and skirting work in extending the metal part of 2-in. centre looping boxes (see page 272) or junction boxes (see pages 262-264 and 269) when deeply embedded in the plaster or skirting. They are made with two lugs at the top, tapped 2 B.A. at 2-in. centres, and two lugs with clearance holes at the bottom to fit the boxes. Collar extension pieces are supplied complete with two 2 B.A. screws.



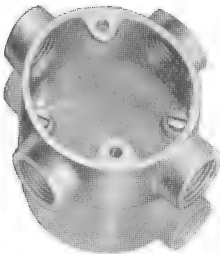
**C 5021**  $\frac{3}{4}$  in. deep.

Cat. No.	External dimensions.	Price per dozen.	
		s.	d.
<b>C 5020</b>	Ins. 2 $\frac{1}{2}$ diameter $\times$ $\frac{1}{2}$ deep	<b>3</b>	<b>4</b>
<b>C 5021</b>	2 $\frac{1}{2}$ diameter $\times$ $\frac{3}{4}$ deep	<b>6</b>	<b>0</b>

EXTRAS.—Hot Galvanizing, **30%** ; Sherardizing, **30%**.

*No extra for SILVERLAC finish.*

### SCREWED COLLAR EXTENSION PIECES



**C 5012/3**

These adapters enable the depth of the small round junction boxes, looping boxes, etc., to be extended. 2-in. fixing centres. Standard finishes, Silverlac and Black Enamel.

Cat. No.	Size of conduit.	Description.	Price per dozen.	
	Ins.		s.	d.
<b>C 5012</b>	$\frac{1}{2}$	{ Intersection collar extension piece }	<b>9</b>	<b>4</b>
<b>C 5013</b>	$\frac{3}{4}$		<b>10</b>	<b>0</b>

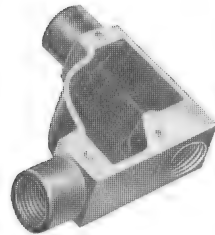
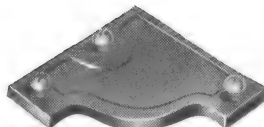
EXTRA.—Galvanizing, **25%**.

### ANGLE TEE INSPECTION FITTINGS

(MALLEABLE IRON)

(See also illustration on page 274).

**Screwed only.**



**C 5033** Base (Left Hand). **C 5033** Cover (Left Hand). **C 5043** Base (Right Hand)

Size of conduit.	LEFT HAND.		RIGHT HAND.	
	Cat. No.	Price per dozen.	Cat. No.	Price per dozen.
Ins. $\frac{1}{2}$	<b>C 5033</b>	s. <b>16</b> d. <b>0</b>	<b>C 5043</b>	s. <b>16</b> d. <b>0</b>

EXTRAS.—Hot Galvanizing, **25%** ; Sherardizing, **25%**.

*No extra for SILVERLAC finish.*

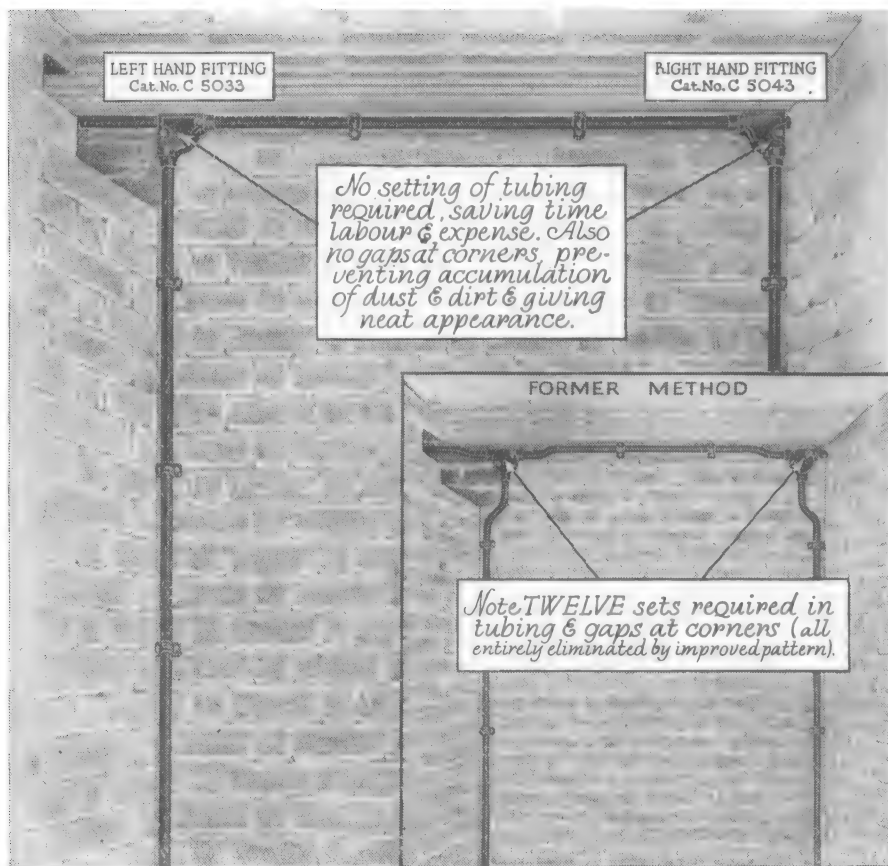
# S.E.C.

## CONDUIT FITTINGS

New and Improved Labour-saving Pattern

### ANGLE TEE INSPECTION FITTINGS

(MALLEABLE IRON)

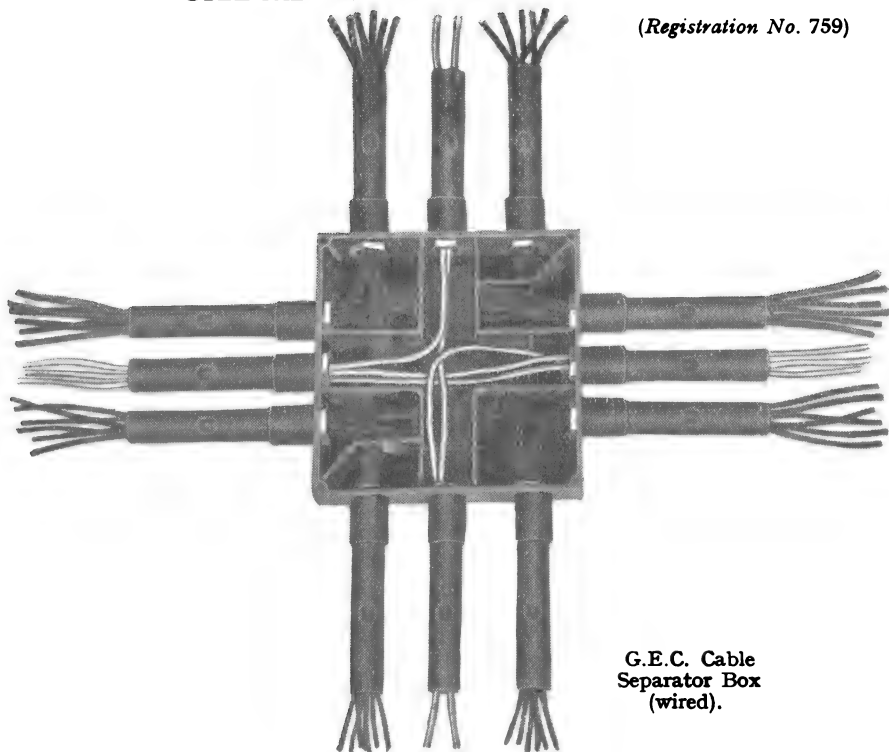


*For particulars and prices see previous page.*

# CONDUIT FITTINGS

## CABLE SEPARATOR BOXES

(Registration No. 759)



G.E.C. Cable  
Separator Box  
(wired).

The MAGNET cable separator box is designed to facilitate wiring in a building in which it is not certain at the time of erection whether each floor will be let as one office or whether it will be partitioned off for a number of tenants. It consists of an adaptable junction box with heavy iron cover and a special interior which eliminates the cutting of floors and walls each time a tenancy is fixed up, thus saving a great amount of labour and expense.

The boxes are suitable for use in systems consisting of square or rectangular networks of lighting, heating and telephone conduit extending over the whole of the floor. At each point of crossing a cable separator box is fitted. The wires are very easily drawn from any one position in the floor to another, so that a great many wiring circuit combinations can be made. Ample room is provided to work on the cable, and the interior can be removed by simply lifting the cover.

The Removable Interior, Cat. No. C 5090, is clearly shown in the above illustration. It fits loosely inside an Adaptable Junction Box,  $9\frac{1}{2} \times 9\frac{1}{2} \times 2\frac{1}{2}$  in., Cat. No. C 5084; three 1-in. conduits are brought into each side of the box and terminated by screwed bushes. The interior provides channel ways for three separate groups of wires, viz., electric lighting, heating and telephones. The channel ways are arranged by means of bridges and openings to permit any wires to be run in any direction, at the same time keeping each class of wiring absolutely separate from every other class, which is essential to comply with the usual regulations.

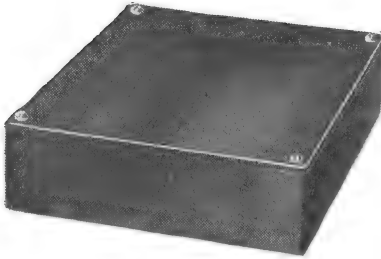
Cat. No.	Description.	Price each.	
		s.	d.
C 5090	Cable Separator, interior only (Black Enamelled)	5	4
C 5084	Adaptable Junction Box ( $9\frac{1}{2} \times 9\frac{1}{2} \times 2\frac{1}{2}$ ) with heavy iron cover (Black Enamelled) .. ..	8	8

NOTE.—Adjustable lids will be constructed for above box to meet any particular circumstances. Designs forwarded on request.

## CONDUIT FITTINGS

### ADAPTABLE JUNCTION BOXES

**HARD CAST IRON, WITH COVERS AND SCREWS.**



**C 5050/69**  
Square.



**C 5070/83**  
Oblong (showing inside flange of lid).

#### SQUARE

Cat. No.	Internal dimensions.	Price each.	Cat. No.	Internal dimensions.	Price each.
	ins.	s. d.		ins.	s. d.
C 5050	2½ square × 1½ deep	1 4	C 5061	8 square × 2 deep	6 4
C 5051	3 " × 1½ "	1 8	C 5062	8 " × 2½ "	6 8
C 5052	3 " × 2 "	2 0	C 5063	9 " × 2 "	7 8
C 5053	3½ " × 1½ "	2 0	C 5064	9 " × 3 "	8 8
C 5054	3½ " × 2½ "	2 8	C 5084	9½ " × 2½ "	8 8
C 5055	4 " × 1½ "	2 4	C 5065	10 " × 2 "	8 4
C 5056	4 " × 2 "	2 8	C 5066	12 " × 2 "	12 8
C 5057	4½ " × 2 "	3 4	C 5067	12 " × 3 "	15 8
C 5058	6 " × 1½ "	3 4	C 5068	12 " × 4 "	18 0
C 5059	6 " × 2 "	3 8	C 5069	18 " × 3 "	40 0
C 5060	6 " × 2½ "	4 4			

#### OBLONG

Cat. No.	Internal dimensions.	Price each.	Cat. No.	Internal dimensions.	Price each.
	ins.	s. d.		ins.	s. d.
C 5070	3½ × 2 × 1½ deep	1 8	C 5078	9 × 5 × 2½ deep	5 4
C 5071	5 × 2½ × 1½ "	2 0	C 5079	9 × 6 × 2 "	5 0
C 5072	6 × 3 × 1½ "	2 8	C 5080	9 × 6 × 4 "	8 0
C 5073	6 × 3 × 2 "	3 0	C 5081	9 × 7 × 3 "	7 0
C 5074	6 × 3 × 2½ "	3 4	C 5085	10 × 8 × 3½ "	8 8
C 5075	6½ × 3½ × 2 "	3 4	C 5082	12 × 8 × 4 "	13 0
C 5076	9 × 3 × 1½ "	3 4	C 5083	12 × 9 × 3 "	14 4
C 5077	9 × 3 × 2 "	3 8			

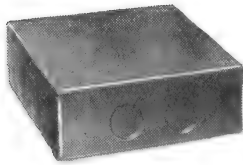
**Extra for Tapping** (per dozen holes).—½, ⅝, or ¾-in., 4s. 8d.; 1-in., 5s. 4d.; 1½ or 1½-in., 8s. 0d.; 2-in., 10s. 8d.; 2½-in., 16s. 0d.

For Brass Bushes, Lock Nuts, etc., see pages 299/301; for Connecting Bases, etc., see page 308.

**EXTRAS.**—Hot Galvanizing, 15% ; Sherardizing, 15%.

*No extra for SILVERLAC finish.*

**CONDUIT FITTINGS  
ADAPTABLE JUNCTION BOXES  
PRESSED STEEL  
PLAIN OR WITH KNOCK-OUT HOLES**



**CS 5055**  
with Knock-outs  
4 × 4 × 1½ in.

These boxes are manufactured in an extensive range of sizes. Up to and including 6in. square or oblong they can be supplied either plain or with ¼ in. or ½ in. knock-out holes. The larger sizes are supplied with plain sides as standard.



**CS 5076**  
Plain  
9 × 3 × 1½ in.

**SQUARE**

Cat. No.	Internal Dimensions.	Price per dozen.		
		£	s.	d.
	Ins.			
CS 5051	3 × 3 × 1½		12	8
CS 5052	3 × 3 × 2		13	8
CS 5053	3½ × 3½ × 1½		16	4
CS 5055	4 × 4 × 1½		17	4
CS 5056	4 × 4 × 2		17	8
CS 5057	4½ × 4½ × 2	1	1	0
CS 5058	6 × 6 × 1½	1	2	0
CS 5059	6 × 6 × 2	1	4	8
CS 5060	6 × 6 × 2½	1	11	0
CS 5061	8 × 8 × 2	2	18	0
CS 5062	8 × 8 × 2½	3	10	0
CS 5063	9 × 9 × 2	3	16	0
CS 5064	9 × 9 × 3	4	2	0
CS 5065	10 × 10 × 2	5	0	0
CS 5067	12 × 12 × 3	7	2	0
CS 5068	12 × 12 × 4	7	8	0
CS 5069	18 × 18 × 3	18	4	0
CS 5089	18 × 18 × 4	23	0	0

**OBLONG**

Cat. No.	Internal Dimensions.	Price per dozen.		
		£	s.	d.
	Ins.			
CS 5070	3½ × 2 × 1½		13	0
CS 5071	5 × 2½ × 1½		16	4
CS 5072	6 × 3 × 1½		18	4
CS 5073	6 × 3 × 2	1	0	0
CS 5074	6 × 3 × 2½	1	3	8
CS 5086	6 × 4 × 2	1	1	0
CS 5076	9 × 3 × 1½	1	14	0
CS 5077	9 × 3 × 2	2	0	0
CS 5078	9 × 5 × 2½	3	4	0
CS 5079	9 × 6 × 2	2	18	0
CS 5080	9 × 6 × 4	4	2	0
CS 5081	9 × 7 × 3	4	2	0
CS 5082	12 × 8 × 4	7	2	0
CS 5083	12 × 9 × 3	6	16	0
CS 5087	12 × 9 × 4	7	8	0
CS 5088	14 × 10 × 4	8	6	0

EXTRAS.—Hot Galvanizing, 20% ; Sherardizing, 20%.

*No extra for SILVERLAC finish.*

# S.E.C.

## CONDUIT FITTINGS BRACKET AND PENDANT BOXES (MALLEABLE IRON) WITHOUT COVERS

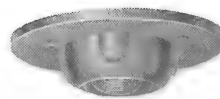
For Covers, etc., see below.



**C 5182**  
Tapped Cover.



**C 5102/5** Terminal Box.



**C 5183**  
Ball and Socket Cover.

These are substantial boxes with two outside fixing lugs.

Size of conduit.	Internal dimensions.	TERMINAL.			BACK OUTLET.			THROUGH.		
		Type.	Cat. No.	Price per doz.	Type.	Cat. No.	Price per doz.	Type.	Cat. No.	Price per doz.
ins. $\frac{1}{2}$	ins. $2\frac{1}{2} \times 1\frac{1}{2}$		<b>C 5102</b>	s. d. 14 4		<b>C 5112</b>	s. d. 14 4		<b>C 5132</b>	s. d. 16 0
$\frac{3}{4}$	$2\frac{1}{2} \times 1\frac{1}{4}$		<b>C 5103</b>	15 8		<b>C 5113</b>	15 8		<b>C 5133</b>	17 0
1	$2\frac{1}{2} \times 1\frac{1}{2}$		<b>C 5105</b>	19 8		<b>C 5115</b>	19 8		<b>C 5135</b>	22 8

Size of conduit.	Internal dimensions.	TEE.			INTERSECTION.		
		Type.	Cat. No.	Price per dozen.	Type	Cat. No.	Price per dozen.
ins. $\frac{1}{2}$	ins. $2\frac{1}{2} \times 1\frac{1}{2}$		<b>C 5152</b>	£ s. d. 17 4		<b>C 5172</b>	£ s. d. 19 4
$\frac{3}{4}$	$2\frac{1}{2} \times 1\frac{1}{2}$		<b>C 5153</b>	19 4		<b>C 5173</b>	1 1 0
1	$2\frac{1}{2} \times 1\frac{1}{2}$		<b>C 5155</b>	1 6 8		<b>C 5175</b>	1 11 4

### COVERS, ETC.

Covers are supplied complete with three 2 B.A.  $\times \frac{1}{2}$ -in. round headed screws.

**Tapped Covers and Screws.**— $\frac{1}{2}$  or  $\frac{3}{4}$ -in. E.T. or  $\frac{1}{2}$ -in. Gas Thread, Cat. No. **C 5182**, Price 8s. 0d. per dozen.

**Ball and Socket Covers and Screws.**—Cat. No. **C 5183**, Price 15s. 4d. per dozen.

### ENAMELLED STEEL BRACKETS



**C 5193**  
Swan Neck Bracket with Scrolls.



**C 5192**  
Plain Angle Bracket.



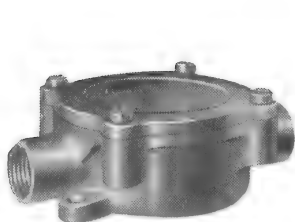
**C 5195**  
Angle Bracket with Scrolls.

Type.	Dimensions.		Thread.		PLAIN.		WITH SCROLLS.	
	Pro-jection.	Thick-ness.	Box end.	Holder end.	Cat. No.	Price per doz.	Cat. No.	Price per doz.
Swan Neck	ins. 9	ins. $\frac{1}{2}$	ins. $\frac{1}{2}$ E.T.	ins. $\frac{1}{2}$ Brass	<b>C 5190</b>	s. d. 14 4	<b>C 5193</b>	£ s. d. 2 11 0
Canting	9	$\frac{3}{4}$	E.T.	$\frac{3}{4}$ Brass	<b>C 5191</b>	13 4	<b>C 5194</b>	1 11 4
Angle	9	$\frac{1}{2}$	E.T.	$\frac{1}{2}$ Brass	<b>C 5192</b>	13 4	<b>C 5195</b>	2 11 4

**EXTRAS.**—Hot Galvanizing, 15% ; Sherardizing, 15% ; Screwed Gas Thread, 10%.  
No extra for SILVERLAC finish.

# CONDUIT FITTINGS

## ROUND WATERTIGHT JUNCTION AND BRACKET BOXES



**C 543—/7—.** With Flat Covers.



**C 543—/7—.** With Domed Covers.

Malleable iron, machine faced and provided with outside fixing lugs ; available with flat cast lids as Junction Boxes or with domed lids as Bracket Boxes. These bracket boxes replace former Cat. Nos. C 5222/5315.

Description.	Type.	Cat. No.	Price per dozen.					
			½ in.			1 in.		
			With flat covers.	With domed covers.		With flat covers.	With domed covers.	
Terminal	○	C 543—	£ s. d.	£ s. d.		£ s. d.	£ s. d.	
Through	○	C 544—	1 1 4	1 7 4		1 6 8	1 12 8	
Angle	○	C 545—	1 2 4	1 8 4		1 9 4	1 15 4	
Tee	⊕	C 546—	1 2 4	1 8 4		1 9 4	1 15 4	
Intersection	⊕	C 547—	1 3 4	1 9 4		1 12 0	1 18 0	
			1 5 0	1 11 0		1 15 8	2 1 8	

### OBLONG PATTERN.

**Internal Dimensions.**— $\frac{1}{2}$  and 1-in. boxes,  $3\frac{1}{2} \times 2 \times 1\frac{1}{2}$  in. ;  $1\frac{1}{2}$ -in. boxes,  $5\frac{1}{2} \times 2\frac{1}{2} \times 1\frac{1}{2}$  in. ;  $1\frac{1}{2}$ -in. boxes,  $5\frac{1}{2} \times 2\frac{1}{2} \times 1\frac{1}{2}$  in. ; 2-in. boxes,  $9\frac{1}{2} \times 4\frac{1}{2} \times 2\frac{1}{2}$  in.

Size of conduit.	THROUGH.			TEE.			INTERSECTION.		
	Type.	Cat. No.	Price per dozen.	Type.	Cat. No.	Price per dozen.	Type.	Cat. No.	Price per dozen.
ins.			£ s. d.			£ s. d.			£ s. d.
$\frac{1}{2}$		C 5483	1 11 4		C 5493	1 13 0		C 5503	1 15 8
1		C 5485	1 13 4		C 5495	1 15 8		C 5505	1 19 4
$1\frac{1}{2}$		C 5486	3 13 0		C 5496	3 16 8		C 5506	4 2 0
$1\frac{1}{2}$		C 5487	4 9 0		C 5497	4 17 0		C 5507	5 6 8
2		C 5488	9 15 8		C 5498	10 4 8		C 5508	10 15 4

EXTRAS.—Hot Galvanizing, 15% ; Sherardizing, 15%.

No extra for SILVERLAC finish.

## CONDUIT FITTINGS

### ROUND WATERTIGHT JUNCTION AND BRACKET BOXES

#### LARGE PATTERN



C 5333/6 Terminal.  
Diameter of flange, 4in.

Size of conduit.	Internal dimensions.	TERMINAL.			THROUGH.			ANGLE.		
		Type.	Cat. No.	Price per doz.	Type.	Cat. No.	Price per doz.	Type.	Cat. No.	Price per doz.
ins.	ins.			£ s. d.			£ s. d.			£ s. d.
$\frac{3}{4}$	$2\frac{7}{8} \times 1\frac{7}{16}$		C 5333	1 15 8		C 5363	1 17 4		C 5383	1 17 4
1	$2\frac{7}{8} \times 1\frac{7}{16}$		C 5335	2 2 8		C 5365	2 4 8		C 5385	2 4 8
$1\frac{1}{2}$	$2\frac{7}{8} \times 1\frac{9}{16}$		C 5336	2 8 0		C 5366	2 12 8		C 5386	2 12 8

Size of conduit.	Internal dimensions.	TEE.			INTERSECTION.		
		Type.	Cat. No.	Price per dozen.	Type.	Cat. No.	Price per dozen.
ins.	ins.			£ s. d.			£ s. d.
$\frac{3}{4}$	$2\frac{7}{8} \times 1\frac{7}{16}$		C 5403	2 0 0		C 5423	2 2 8
1	$2\frac{7}{8} \times 1\frac{7}{16}$		C 5405	2 6 4		C 5425	2 10 0
$1\frac{1}{2}$	$2\frac{7}{8} \times 1\frac{9}{16}$		C 5406	2 17 0		C 5426	3 3 4

EXTRAS.—Galvanizing, 15% ; Sherardizing, 15%.

No extra for SILVERLAC finish.



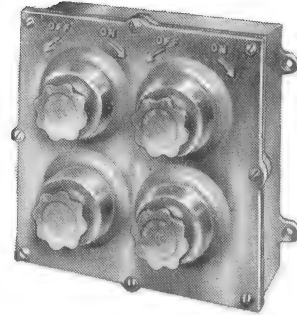
# CONDUIT FITTINGS

## WATERTIGHT PATTERN

### MULTIPLE SURFACE SWITCH BOXES

**5 AMP.**

No. of switchways.	Cat. No.	External dimensions.	Price each.
		ins.	£ s. d.
2	C 5522	6½ × 3½ × 1½	13 4
3	C 5523	9½ × 3½ × 1½	19 0
4	C 5524	6½ × 6½ × 1½	1 8 0
5	C 5525	9½ × 6½ × 1½	1 16 0
6	C 5526	9½ × 6½ × 1½	2 1 0
7	C 5527	9½ × 9½ × 1½	2 6 0
8	C 5528	9½ × 9½ × 1½	2 11 0
9	C 5529	9½ × 9½ × 1½	2 16 0
10	C 5530	12½ × 9½ × 1½	3 1 0
11	C 5531	12½ × 9½ × 1½	3 6 0
12	C 5532	12½ × 9½ × 1½	3 11 0



**C 5524**

### WALL PLUGS, 3-PIN

Size of conduit.	Capacity.	TERMINAL.			THROUGH.				
		Cat. No.	Price each.			Cat. No.	Price each.		
ins.	amps.		£	s.	d.		£	s.	d.
$\frac{5}{8}$	5	C 5552	12	8		C 5562	13	0	
$\frac{3}{4}$	5	C 5553	13	0		C 5563	13	8	
$\frac{3}{4}$	15	C 5543	1	2	8	C 5573	1	4	8
1	15	C 5545	1	5	8	C 5575	1	7	8

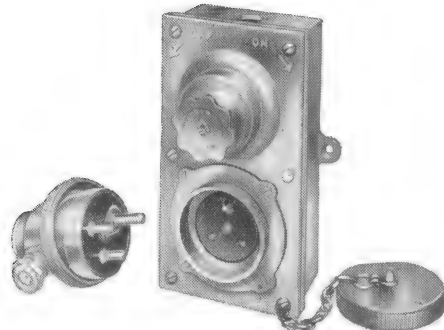
### 5-AMP. SWITCH AND PLUG BOX

Cat. No.	External dimensions.	Price each.
	ins.	£ s. d.
C 5540	6½ × 3½ × 1½	1 5 8

**EXTRAS.**

Galvanizing, **15%**; Sherardizing, **15%**.

*No extra for SILVERLAC finish.*



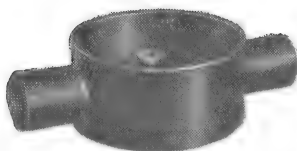
**C 5540**

*For Watertight "Landor" Switches (side and front handle types), see page 445.*

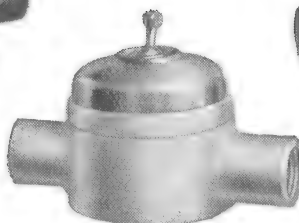


## CONDUIT FITTINGS

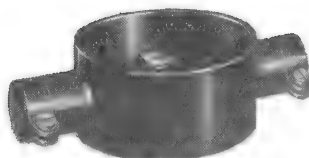
### 5-AMP. SEMI-RECESSED SWITCH BOXES WITHOUT SWITCHES



CA 5612/3 Screwed.



C 5612/3 with switch. Screwed Through.



CS 5612/3 Lug Grip.

Size of conduit.	Type.	TERMINAL.					
		SCREWED (M.I.).		SCREWED (P.S.).		LUG GRIP (P.S.).	
		Cat. No.	Price per dozen.	Cat. No.	Price per dozen.	Cat. No.	Price per dozen.
ins.			s. d.		s. d.		s. d.
$\frac{1}{2}$		C 5582	9 4	CA 5582	7 4	CS 5582	7 4
$\frac{3}{4}$		C 5583	10 0	CA 5583	7 4	CS 5583	7 4

Size of conduit.	Type.	BACK OUTLET.					
		SCREWED (M.I.).		SCREWED (P.S.).		LUG GRIP (P.S.).	
		Cat. No.	Price per dozen.	Cat. No.	Price per dozen.	Cat. No.	Price per dozen.
ins.			s. d.		s. d.		s. d.
$\frac{1}{2}$		C 5592	9 4	CA 5592	7 4	CS 5592	7 4
$\frac{3}{4}$		C 5593	10 0	CA 5593	7 4	CS 5593	7 4

Size of conduit.	Type.	TERMINAL & BACK OUTLET.					
		SCREWED.		SCREWED (P.S.).		LUG GRIP (P.S.).	
		Cat. No.	Price per dozen.	Cat. No.	Price per dozen.	Cat. No.	Price per dozen.
ins.			s. d.		s. d.		s. d.
$\frac{1}{2}$		C 5602	10 0	CA 5602	9 4	CS 5602	9 4
$\frac{3}{4}$		C 5603	10 8	CA 5603	9 4	CS 5603	9 4

Size of conduit.	Type.	THROUGH.					
		SCREWED.		SCREWED (P.S.).		LUG GRIP (P.S.).	
		Cat. No.	Price per dozen.	Cat. No.	Price per dozen.	Cat. No.	Price per dozen.
ins.			s. d.		s. d.		s. d.
$\frac{1}{2}$		C 5612	10 0	CA 5612	9 4	CS 5612	9 4
$\frac{3}{4}$		C 5613	10 8	CA 5613	9 4	CS 5613	9 4


EXTRAS.—Malleable Iron Fittings—Hot Galvanizing, 25%.  
Pressed Steel " " " 20%.


No extra for SILVERLAC finish.

For Biscuit Rings, see page 272.



## CONDUIT FITTINGS

### 5-AMP. SEMI-RECESSED SWITCH BOXES WITHOUT SWITCHES




Size of conduit.	Type.	ANGLE.					
		SCREWED		SCREWED (P.S.).		LUG GRIP (P.S.).	
		Cat. No.	Price per dozen.	Cat. No.	Price per dozen.	Cat. No.	Price per dozen.
ins. $\frac{3}{4}$ $\frac{1}{2}$		C 5632	s. d. 10 0	CA 5632	s. d. 9 4	CS 5632	s. d. 9 4
		C 5633	s. d. 10 8	CA 5633	s. d. 9 4	CS 5633	s. d. 9 4

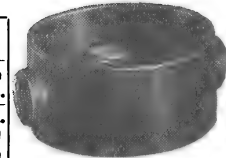
Size of conduit.	Type.	TEE.					
		SCREWED		SCREWED (P.S.).		LUG GRIP (P.S.).	
		Cat. No.	Price per dozen.	Cat. No.	Price per dozen.	Cat. No.	Price per dozen.
ins. $\frac{3}{4}$ $\frac{1}{2}$		C 5652	s. d. 10 8	CA 5652	s. d. 11 4	CS 5652	s. d. 11 4
		C 5653	s. d. 11 8	CA 5653	s. d. 11 4	CS 5653	s. d. 11 4

### 15 AMP. (Screwed only.) Pressed Steel.



Size of conduit.	TERMINAL.				THROUGH.		
	Type.	Cat. No.	Price per dozen.		Type.	Cat. No.	Price per dozen.
			s. d.				s. d.
ins. $\frac{3}{4}$ 1		CA 5673	s. d. 15 4			CA 5683	s. d. 16 0
		CA 5675	s. d. 16 8			CA 5685	s. d. 17 4



### 5-AMP. Short Spouts. (Screwed only.) Pressed Steel.

Size of conduit.	TERMINAL.			BACK OUTLET.			TERMINAL & BACK OUTLET.		
	Type	Cat. No.	Price per dz.	Type	Cat. No.	Price per dz.	Type	Cat. No.	Price per dz.
			s. d.			s. d.			s. d.
ins. $\frac{3}{4}$ $\frac{1}{2}$		CA5702	s. d. 5 4		CA5712	s. d. 5 4		CA5722	s. d. 6 0
		CA5703	s. d. 5 4		CA5713	s. d. 5 4		CA5723	s. d. 6 0



CA 5732/3

Size of conduit.	THROUGH.				THROUGH & BACK OUTLET.		
	Type.	Cat. No.	Price per dozen.		Type.	Cat. No.	Price per dozen.
			s. d.				s. d.
ins. $\frac{3}{4}$ $\frac{1}{2}$		CA 5732	s. d. 6 0			CA 5742	s. d. 6 8
		CA 5733	s. d. 6 0			CA 5743	s. d. 6 8



Size of conduit.	TERMINAL TANGENT (Left).				TERMINAL TANGENT (Right).			
	Type.	Cat. No.	Price per dozen.		Type.	Cat. No.	Price per dozen.	
			s. d.				s. d.	
ins. $\frac{3}{4}$ $\frac{1}{2}$		CA 5692L	s. d. 5 4			CA 5692R	s. d. 5 4	
		CA 5693L	s. d. 5 4			CA 5693R	s. d. 5 4	



EXTRAS.—Malleable Iron Fittings—Hot Galvanizing, 25%.  
 Pressed Steel " " " 20%.  
 No extra for SILVERLAC finish.  
 For Biscuit Rings, see page 272.

# S.E.C.



## CONDUIT FITTINGS

### 5-AMP. SEMI-RECESSED SWITCH BOXES (HARD CAST) WITHOUT SWITCHES



Size of conduit.	TERMINAL.			BACK OUTLET.		
	Type.	Cat. No.	Price per doz.	Type.	Cat. No.	Price per doz.
ins. $\frac{5}{8}$ $\frac{3}{4}$		C 5702 C 5703	s. d. 6 0 6 0		C 5712 C 5713	s. d. 6 0 6 0



Size of conduit.	TERMINAL & BACK OUTLET.			THROUGH.		
	Type.	Cat. No.	Price per doz.	Type.	Cat. No.	Price per doz.
ins. $\frac{5}{8}$ $\frac{3}{4}$		C 5722 C 5723	s. d. 6 8 6 8		C 5732 C 5733	s. d. 6 8 6 8

### TANGENT TERMINAL SEMI-RECESSED 5 AMP.

Size of conduit.	TANGENT TERMINAL (Right).			TANGENT TERMINAL (Left).		
	Type.	Cat. No.	Price per doz.	Type.	Cat. No.	Price per doz.
ins. $\frac{5}{8}$ $\frac{3}{4}$		C 5692R C 5693R	s. d. 6 0 6 0		C 5692L C 5693L	s. d. 6 0 6 0

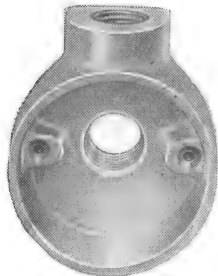
### SCREWED. (Long Outlets). Pressed Steel

Size of conduit.	TERMINAL.			BACK OUTLET.		
	Type.	Cat. No.	Price per dozen.	Type.	Cat. No.	Price per dozen.
ins. $\frac{5}{8}$ $\frac{3}{4}$		CA 7542 CA 7543	s. d. 6 4 6 4		CA 7552 CA 7553	s. d. 6 4 6 4


Size of conduit.	TERMINAL & BACK OUTLET.			THROUGH.		
	Type.	Cat. No.	Price per dozen.	Type.	Cat. No.	Price per dozen.
ins. $\frac{5}{8}$ $\frac{3}{4}$		CA 7562 CA 7563	s. d. 8 4 8 4		CA 7572 CA 7573	s. d. 8 4 8 4

### SWITCH BOXES

#### For 3-amp. Semi-Recessed Switches, etc.



C 5783 Terminal and back outlet.

Size of conduit.	Type.	TERMINAL & BACK OUTLET.					
		SCREWED		SCREWED (P.S.).		LUG GRIP.	
		Cat. No.	Price per dozen.	Cat. No.	Price per dozen.	Cat. No.	Price per dozen.
ins. $\frac{5}{8}$ $\frac{3}{4}$		C 5782 C 5783	s. d. 5 4 5 4	CA 5782 CA 5783	s. d. 5 0 5 0	CS 5782 CS 5783	s. d. 8 4 8 4

No extra for SILVERLAC finish.

**S.E.C.**

## CONDUIT FITTINGS SWITCH BOXES

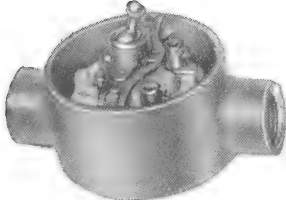
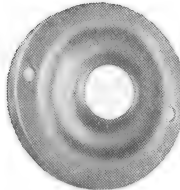
**CA 5772/3** Screwed.**CS 5772/3** Lug Grip.

Size of conduit.	Type.	TERMINAL.					
		SCREWED.		SCREWED (P.S.).		LUG GRIP.	
		Cat. No.	Price per dozen.	Cat. No.	Price per dozen.	Cat. No.	Price per dozen.
ins. $\frac{3}{4}$		C 5762	s. d. 4 8	CA 5762	s. d. 4 4	CS 5762	s. d. 6 4
$\frac{1}{2}$		C 5763	4 8	CA 5763	4 4	CS 5763	6 4

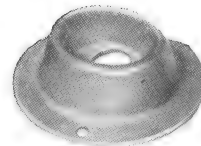
Size of conduit.	Type.	BACK OUTLET.					
		SCREWED.		SCREWED (P.S.).		LUG GRIP.	
		Cat. No.	Price per dozen.	Cat. No.	Price per dozen.	Cat. No.	Price per dozen.
ins. $\frac{3}{4}$		C 5752	s. d. 4 8	CA 5752	s. d. 4 4	CS 5752	s. d. 6 4
$\frac{1}{2}$		C 5753	4 8	CA 5753	4 4	CS 5753	6 4

Size of conduit.	Type.	THROUGH.					
		SCREWED.		SCREWED (P.S.).		LUG GRIP.	
		Cat. No.	Price per dozen.	Cat. No.	Price per dozen.	Cat. No.	Price per dozen.
ins. $\frac{3}{4}$		C 5772	s. d. 5 4	CA 5772	s. d. 5 0	CS 5772	s. d. 8 4
$\frac{1}{2}$		C 5773	5 4	CA 5773	5 0	CS 5773	8 4

### SURFACE SWITCH BOXES **Screwed only.**

**C 5832/5**

Standard cover.



Protected dolly cover.

An improved model of one-way surface switch-box. The switch is slung from a special cross-bar, allowing extra room for wiring beneath the switch. The screws, which fix this cross-bar on to the lugs of the box and secure the cover, ensure permanent earthing. Special protected dolly covers can be supplied at extra cost.

#### 5 Amp. With Switches

Description.	Type.	Cat. No.	Price per dozen (Silverlac or Black Enamel), with Standard Cover and Screws.					
			$\frac{1}{4}$ in.		$\frac{1}{2}$ in.		1 in.	
			£	s. d.	£	s. d.	£	s. d.
Terminal .. ..		C 580—	1	12	0	1	12	0
Back outlet .. ..		C 579—	1	12	0	1	12	0
Terminal & back outlet		C 581—	1	13	0	1	13	0
Through .. ..		C 583—	1	13	0	1	13	0

#### 15 Amp. With Switches

Size of conduit.	TERMINAL.			THROUGH.		
	Type.	Cat. No.	Price per dozen.	Type.	Cat. No.	Price per dozen.
			£ s. d.			£ s. d.
ins. $\frac{3}{4}$		C 5873	2 18 8		C 5893	3 0 0
1		C 5875	3 4 0		C 5895	3 6 8

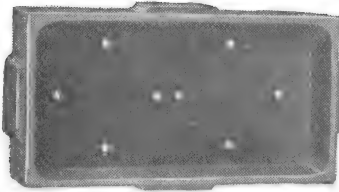
Extra for protected dolly covers, 4s. 0d. per dozen.

EXTRAS.—Malleable Iron Fittings, Hot Galvanizing 15% ; Pressed Steel 20% .  
No extra for SILVERLAC finish.

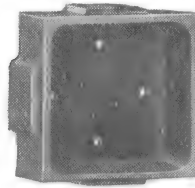
## CONDUIT FITTINGS MULTIPLE SWITCH BOXES—HARD CAST SHALLOW FLUSH PATTERN

For use with 5-amp. Flush Switches, Socket Outlets, Bell Pushes, etc.,  
with Metal or Bakelite Switch Plates.

### BOXES ONLY



C 5902 Two Switchway.

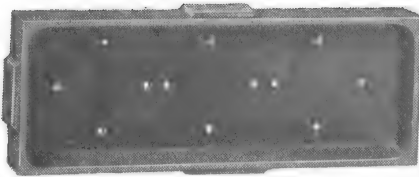


C 5901 One Switchway.

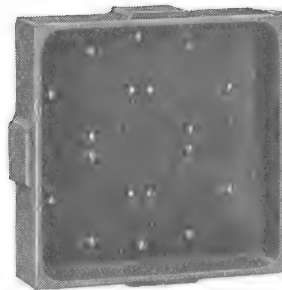
This range of MAGNET switch boxes has been developed to suit positions where only shallow boxes can be let in flush. For each switch or socket outlet position, four  $\frac{1}{4}$ -in. tapped holes are provided in the base to allow for fixing the accessories vertically or horizontally.

G.E.C. metal or bakelite flush plates used in conjunction with these boxes give sufficient margin to cover inequalities in the surrounding plaster work. Switch centres 2ins. Fixing holes  $1\frac{1}{2}$ in.

No. of Switch-ways.	Size of conduit. Screwed.	External dimensions.	TERMINAL.		THROUGH.	
			Cat. No.	Price per doz.	Cat. No.	Price per doz.
	ins.	ins.		s. d.		s. d.
1 {	$\frac{5}{8}$	$2\frac{1}{2} \times 2\frac{1}{2} \times 1\frac{1}{2}$	C 5901A	7 4	C 5901B	8 0
	$\frac{3}{4}$	$2\frac{1}{2} \times 2\frac{1}{2} \times 1\frac{1}{2}$	C 5901C	7 4	C 5901D	8 0
2 {	$\frac{5}{8}$	$5 \times 2\frac{1}{2} \times 1\frac{1}{2}$	C 5902A	10 8	C 5902B	11 8
	$\frac{3}{4}$	$5 \times 2\frac{1}{2} \times 1\frac{1}{2}$	C 5902C	10 8	C 5902D	11 8



C 5903 Three Switchway.



C 5904 Four Switchway.

No. of Switch-ways.	Size of conduit. Screwed.	External dimensions.	TERMINAL.		THROUGH.	
			Cat. No.	Price per doz.	Cat. No.	Price per doz.
	ins.	ins.		s. d.		s. d.
3 {	$\frac{5}{8}$	$7\frac{1}{2} \times 2\frac{1}{2} \times 1\frac{1}{2}$	C 5903A	14 4	C 5903B	15 4
	$\frac{3}{4}$	$7\frac{1}{2} \times 2\frac{1}{2} \times 1\frac{1}{2}$	C 5903C	14 4	C 5903D	15 4
4 {	$\frac{5}{8}$	$5 \times 5 \times 1\frac{1}{2}$	C 5904A	18 8	C 5904B	19 8
	$\frac{3}{4}$	$5 \times 5 \times 1\frac{1}{2}$	C 5904C	18 8	C 5904D	19 8

**Extra for tapping additional holes** ( $\frac{5}{8}$  or  $\frac{3}{4}$ -in. E.T.).—4s. 6d. per dozen holes. **Extra** for Hot Galvanizing, 25%.

No extra for SILVERLAC finish.

**Fixing Screws.**—For 5-amp. switches,  $\frac{5}{8} \times \frac{1}{2}$ -in. Whit. countersunk, 2s. 0d. per gross; for 5-amp. plugs,  $1\frac{1}{8} \times \frac{1}{2}$ -in. Whit. countersunk, 2s. 4d. per gross.

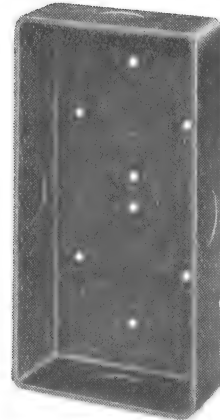
# CONDUIT FITTINGS

## "GENALEX" SHALLOW SWITCH BOXES (PRESSED STEEL) FLUSH PATTERN

### 5 AMP.

This range of shallow switch boxes covers 1 to 6 ways and tapped with  $\frac{1}{8}$ -in. Wh. holes to take standard G.E.C. 5-amp. switches or socket outlets, vertically or horizontally. The boxes are provided with knock-out discs for  $\frac{1}{2}$ -in. or  $\frac{3}{4}$ -in. conduit.

Cat. No.	Number of switchways.	No. of $\frac{1}{2}$ or $\frac{3}{4}$ -in. knock-out discs.	Price per dozen.		
			£	s.	d.
CS 5901	1	4		6	8
CS 5902	2	4		10	0
CS 5903	3	6		15	0
CS 5904	4	4		19	4
CS 5905	5	4	1	9	4
CS 5906	6	6	1	11	8



CS 5902

**Fixing Screws.**—For 5-amp. Switches,  $\frac{3}{8} \times \frac{1}{8}$ -in. Whit. Countersunk, 2s. 0d. per gross; for 5-amp. Plugs,  $1\frac{1}{8} \times \frac{1}{8}$ -in. Whit. Countersunk, 2s. 4d. per gross.

### 15 AMP.

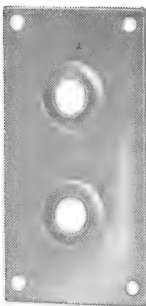
These two-gang switch boxes are provided with four  $\frac{3}{4}$ -in. knock-outs. They are suitable for mounting standard G.E.C. 15-amp. switches and socket outlets, for each of which four fixing holes are provided in the box to allow the box to be mounted either vertically or horizontally.

Cat. No. CS 5922 Price .. £1 0s. 0d. per dozen.

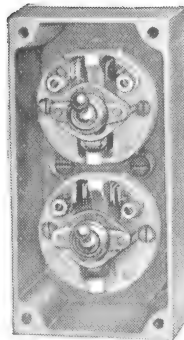
EXTRAS.—Hot Galvanizing, 20%; Sherardizing, 20%.

No extra for SILVERLAC finish.

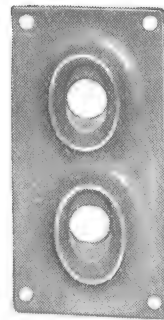
## "MAGNET" SWITCH BOXES. HARD CAST 5 Amp. Mounted on Fixed Grid. With Switches.



Standard cover.



C 5992



Protected dolly cover.

These boxes are supplied undrilled and can be used for either surface or flush mounting with a switch-plate. The interiors are mounted on a fixed grid, giving ample room for wiring.

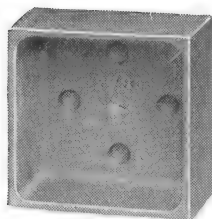
Number of ways.	External dimensions.	Cat. No.	Price per dozen (Silverlac or Black Enamel).					
			Box & Switches (without Cover).			Standard Cover and Screws.		Protected Cover & Screws.
			£	s.	d.	s.	d.	s. d.
1	Ins. $2\frac{1}{2} \times 2\frac{1}{2} \times 1\frac{11}{16}$	C 5991	2	0	0	4	0	6 8
2	$5 \times 2\frac{1}{2} \times 1\frac{11}{16}$	C 5992	3	12	0	8	0	12 0
3	$7 \times 2\frac{1}{2} \times 1\frac{11}{16}$	C 5993	5	4	0	12	0	16 0

EXTRAS.—Hot Galvanizing, 15%; Sherardizing, 15%.

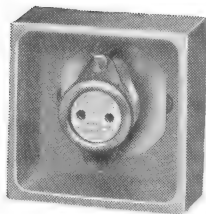
No extra for SILVERLAC finish.

## CONDUIT FITTINGS

### SPECIAL CONDUIT BOXES FOR ADJUSTABLE SWITCHES AND SOCKET OUTLETS



**C 5911**



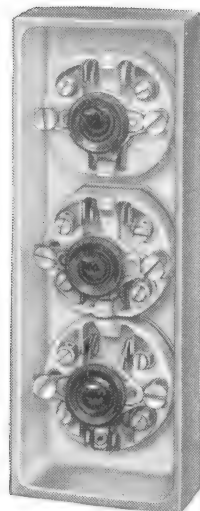
**C 5911**

Showing **S 4758** 2-amp. two-pin socket outlet (with brass ring) fitted in box.

Cat. No.	Description.	Price per dozen. (Boxes only with carrier plate fixing screws).	
		s.	d.
<b>C 5911</b>	One switchway outlet	<b>10</b>	<b>0</b>
<b>C 5912</b>	Two switchway outlets	<b>15</b>	<b>8</b>
<b>C 5913</b>	Three switchway outlets	<b>22</b>	<b>4</b>

Above prices do not include accessories.

In the two-way and three-way boxes, the switches or sockets can be fitted either vertically or horizontally.

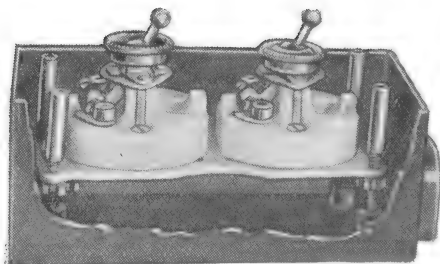


**C 5913**

Showing three-way box with one-way, two-way and intermediate adjustable switches.

## MULTIPLE SWITCH BOXES—FLUSH PATTERN WITH PATENT ADJUSTABLE GRID

**For use with Flush Switch Plates**



**C 5932** Two Switchway.

which are slotted at the top for the screwdriver. The grids are tapped to take switches or plugs with  $1\frac{1}{8}$  or  $1\frac{1}{4}$ -in. fixing centres and spaced at 2 in.

In this type of multiple switch box the switches or socket outlets are mounted on an adjustable grid, which can be easily tilted endways or sideways to suit the surface of the wall. A number of long screws are provided, projecting from the base of the box and passing through holes in the grid; these screws are fitted with serrated nuts on which the grid rests. The grid is so designed that every nut can be turned from the front of the box without removing the grid, thus enabling adjustment to be carried out. After adjustment the grid is secured by means of threaded sleeves,

*For particulars and prices of Multiple Switch Boxes, see following pages.*



# CONDUIT FITTINGS

## MULTIPLE SWITCH BOXES—FLUSH PATTERN WITH PATENT ADJUSTABLE GRID

(Patent applied for No. 11460/30)

For use with Flush Switch Plates

### 5-AMP. TYPE

When supplied complete, 5-amp. Switch Boxes are fitted with Cat. No. S 251 "Landor" Rapid Make and Break earthed Flush Switches (with Polished Brass dollies and fixing rings). Alternatively, Bakelite Switches (either "Landor" or "Slick" pattern) can be supplied (at appropriate prices) if specified at the time of ordering.

**Tapping.**—One and two switchway boxes can be supplied tapped either  $\frac{1}{4}$ -in. E.T., terminal (at prices given) or through (at 6d. each extra); three switchway boxes can be supplied tapped  $\frac{1}{2}$ -in., terminal (at prices given) or through (at 6d. each extra).\*

Four switchway boxes and upwards are supplied undrilled.

No. of switchways.	External dimensions.	Cat. No.	Price each.		
			Box (with Grids and Sleeves) only.		
	ins.		£	s.	d.
1	$3 \times 2 \frac{1}{8} \times 1 \frac{1}{4}$	C 5931	3	0	
2	$5 \times 2 \frac{1}{8} \times 1 \frac{1}{4}$	C 5932	3	8	
3	$7 \times 2 \frac{1}{8} \times 1 \frac{1}{4}$	C 5933	4	8	
4	$5 \times 5 \times 1 \frac{1}{4}$	C 5934	6	0	
5	$7 \times 5 \times 1 \frac{1}{4}$	C 5935	8	0	
6	$7 \times 5 \times 1 \frac{1}{4}$	C 5936	8	4	
7	$7 \times 7 \times 1 \frac{1}{4}$	C 5937	12	4	
8	$7 \times 7 \times 1 \frac{1}{4}$	C 5938	12	8	
9	$7 \times 7 \times 1 \frac{1}{4}$	C 5939	13	0	
10	$9 \times 7 \times 1 \frac{1}{4}$	C 5940	1	0	8

No. of switchways.	External dimensions.	Cat. No.	Price each.		
			Box (with Grids and Sleeves) only.		
	ins.		£	s.	d.
11	$9 \times 7 \times 1 \frac{1}{4}$	C 5941	1	1	0
12	$9 \times 7 \times 1 \frac{1}{4}$	C 5942	1	1	4
13	$9 \times 9 \times 1 \frac{1}{4}$	C 5943	1	5	0
14	$9 \times 9 \times 1 \frac{1}{4}$	C 5944	1	5	4
15	$9 \times 9 \times 1 \frac{1}{4}$	C 5945	1	5	8
16	$9 \times 9 \times 1 \frac{1}{4}$	C 5946	1	6	0
17	$11 \times 9 \times 1 \frac{1}{4}$	C 5947	1	12	0
18	$11 \times 9 \times 1 \frac{1}{4}$	C 5948	1	12	4
19	$11 \times 9 \times 1 \frac{1}{4}$	C 5949	1	12	8
20	$11 \times 9 \times 1 \frac{1}{4}$	C 5950	1	13	0

### 15-AMP. TYPE

When supplied complete, 15-amp. Switch Boxes are fitted with Cat. No. S 381 "Landor" Rapid Make and Break earthed Switches (with Polished Brass dollies and fixing rings). Alternatively, Bakelite "Landor" Switches can be supplied (at appropriate prices) if specified at the time of ordering.

**Tapping.**—One, two and three switchway boxes can be supplied tapped  $\frac{1}{4}$ -in. E.T., terminal or through.\*

Four switchway boxes and upwards are supplied undrilled.

No. of switchways.	External dimensions.	Cat. No.	Price each.		
			Box (with Grids and Sleeves) only.		
	ins.		£	s.	d.
1	$3 \frac{1}{4} \times 3 \frac{1}{4} \times 2 \frac{1}{4}$	C 5971	4	0	
2	$6 \frac{1}{4} \times 3 \frac{1}{4} \times 2 \frac{1}{4}$	C 5972	5	4	
3	$9 \frac{1}{4} \times 3 \frac{1}{4} \times 2 \frac{1}{4}$	C 5973	7	4	
4	$6 \frac{1}{4} \times 6 \frac{1}{4} \times 2 \frac{1}{4}$	C 5974	9	4	
5	$9 \frac{1}{4} \times 6 \frac{1}{4} \times 2 \frac{1}{4}$	C 5975	14	4	
6	$9 \frac{1}{4} \times 6 \frac{1}{4} \times 2 \frac{1}{4}$	C 5976	14	8	

No. of switchways.	External dimensions.	Cat. No.	Price each.		
			Box (with Grids and Sleeves) only.		
	ins.		£	s.	d.
7	$9 \frac{1}{4} \times 9 \frac{1}{4} \times 2 \frac{1}{4}$	C 5977	1	2	4
8	$9 \frac{1}{4} \times 9 \frac{1}{4} \times 2 \frac{1}{4}$	C 5978	1	2	8
9	$9 \frac{1}{4} \times 9 \frac{1}{4} \times 2 \frac{1}{4}$	C 5979	1	3	0
10	$12 \times 9 \frac{1}{4} \times 2 \frac{1}{4}$	C 5980	1	10	4
11	$12 \times 9 \frac{1}{4} \times 2 \frac{1}{4}$	C 5981	1	10	8
12	$12 \times 9 \frac{1}{4} \times 2 \frac{1}{4}$	C 5982	1	11	0

**Fixing Screws.**—For 5-amp. Switches,  $\frac{1}{4} \times \frac{1}{4}$ -in. Whit. Countersunk, 2s. 0d. per gross; for 15-amp. Switches,  $\frac{1}{2} \times \frac{1}{2}$ -in. Whit. Countersunk, 2s. 0d. per gross.

\*When ordering by Catalogue Nos. only, the tapping required must be denoted by letters placed after the Catalogue No. as follows:—A =  $\frac{1}{4}$ -in. terminal; B =  $\frac{1}{4}$ -in. through; C =  $\frac{1}{2}$ -in. terminal; D =  $\frac{1}{2}$ -in. through.

Metal or Bakelite Flush Switch Plates can be supplied for use with the above boxes.

Details on application.

EXTRAS.—With Switches—Hot Galvanizing, 15%; Sherardizing, 15%.

Boxes only—Hot Galvanizing, 25%; Sherardizing, 25%.

No extra for SILVERLAC finish.

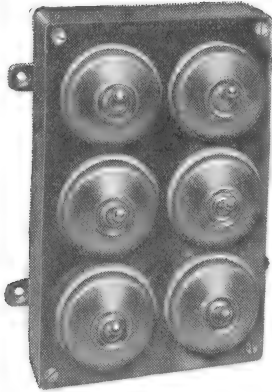
## CONDUIT FITTINGS

### MULTIPLE SWITCH BOXES

### SEMI-RECESSED PATTERN

#### 5-AMP. TYPE

This semi-recessed Switch Box consists of a cast iron box with a heavy cover secured by four 2 B.A. countersunk screws. The switches are screwed to a recessed bridge, which forms part of the cover. Five switchway boxes and upwards are fitted with outside fixing lugs.



C 6006 Six switchway.

When supplied complete, 5-amp. Switch Boxes are fitted with Cat. No. S 248 "Landor" Rapid Make and Break earthed semi-recessed Switches (in Polished Brass finish). Alternatively, Bakelite Switches (either "Landor" or "Slick" pattern) can be supplied (at appropriate prices) if specified at the time of ordering.

**Tapping.**—Two and three switchway boxes can be supplied tapped either  $\frac{1}{8}$  or  $\frac{3}{8}$ -in. E.T., terminal (at prices given) or through at 6d. each extra. When ordering by Catalogue Nos. only, the tapping required must be denoted by a letter placed after the Catalogue No. as follows :—A= $\frac{1}{8}$ -in. terminal ; B= $\frac{3}{8}$ -in. through ; C= $\frac{3}{8}$ -in. terminal ; D= $\frac{3}{8}$ -in. through.

Four switchway boxes and upwards are supplied undrilled.

Number of switchways.	External dimensions.	Cat. No.	Price each.					
			Box complete with "Landor" Switches and Cover.			Box and Cover only.		
	Ins.		£	s.	d.	£	s.	d.
2	5 $\frac{1}{2}$ × 2 $\frac{1}{8}$ × 1 $\frac{1}{2}$	C 6002	6	0		2	4	
3	8 $\frac{1}{2}$ × 2 $\frac{1}{8}$ × 1 $\frac{1}{2}$	C 6003	9	0		3	4	
4	6 $\frac{1}{2}$ × 5 $\frac{1}{8}$ × 1 $\frac{3}{8}$	C 6004	12	0		4	8	
5	8 $\frac{1}{2}$ × 5 $\frac{1}{8}$ × 1 $\frac{3}{8}$	C 6005	15	0		6	0	
6	8 $\frac{1}{2}$ × 5 $\frac{1}{8}$ × 1 $\frac{3}{8}$	C 6006	17	0		6	4	
7	8 $\frac{1}{2}$ × 8 $\frac{1}{8}$ × 1 $\frac{7}{8}$	C 6007	18	8		8	0	
8	8 $\frac{1}{2}$ × 8 $\frac{1}{8}$ × 1 $\frac{7}{8}$	C 6008	1	0	4	8	4	
9	8 $\frac{1}{2}$ × 8 $\frac{1}{8}$ × 1 $\frac{7}{8}$	C 6009	1	2	0	8	8	
10	10 $\frac{7}{8}$ × 8 $\frac{1}{8}$ × 1 $\frac{7}{8}$	C 6010	1	7	4	10	0	
11	10 $\frac{7}{8}$ × 8 $\frac{1}{8}$ × 1 $\frac{7}{8}$	C 6011	1	9	0	10	4	
12	10 $\frac{7}{8}$ × 8 $\frac{1}{8}$ × 1 $\frac{7}{8}$	C 6012	1	10	8	10	8	
13	11 $\frac{1}{8}$ × 11 $\frac{1}{8}$ × 1 $\frac{7}{8}$	C 6013	1	18	0	16	0	
14	11 $\frac{1}{8}$ × 11 $\frac{1}{8}$ × 1 $\frac{7}{8}$	C 6014	1	19	8	16	4	
15	11 $\frac{1}{8}$ × 11 $\frac{1}{8}$ × 1 $\frac{7}{8}$	C 6015	2	1	4	16	8	
16	11 $\frac{1}{8}$ × 11 $\frac{1}{8}$ × 1 $\frac{7}{8}$	C 6016	2	3	0	17	0	
17	13 $\frac{1}{2}$ × 11 $\frac{1}{8}$ × 1 $\frac{7}{8}$	C 6017	2	8	0	1	0	0
18	13 $\frac{1}{2}$ × 11 $\frac{1}{8}$ × 1 $\frac{7}{8}$	C 6018	2	9	8	1	0	4
19	13 $\frac{1}{2}$ × 11 $\frac{1}{8}$ × 1 $\frac{7}{8}$	C 6019	2	11	4	1	0	8
20	13 $\frac{1}{2}$ × 11 $\frac{1}{8}$ × 1 $\frac{7}{8}$	C 6020	2	13	0	1	1	0

**Fixing Screws.**—For 5-amp. Switches, 1 ×  $\frac{1}{8}$ -in. Whit. Countersunk, 2s. 0d. per gross.

**EXTRAS.**—With Switches—Hot Galvanizing, 15% ; Sherardizing, 15%.

Box and Cover only—Hot Galvanizing, 25% ; Sherardizing, 25%.

*No extra for SILVERLAC finish.*

# CONDUIT FITTINGS

## MULTIPLE SWITCH BOXES SEMI-RECESSED PATTERN

### 15-AMP. TYPE

When supplied complete, 15-amp. Switch Boxes are fitted with Cat. No. S **278** "Landor" Rapid Make and Break earthed semi-recessed switches (in Polished Brass finish). Alternatively, Bakelite "Landor" Switches can be supplied (at appropriate prices) if specified at the time of ordering.

**Tapping.**—Two and three switchway boxes can be supplied tapped either  $\frac{3}{8}$  or  $\frac{1}{2}$ -in. E.T., terminal (at prices given) or through at 6d. each extra. When ordering by Catalogue Nos. only, the tapping required must be denoted by a letter placed after the Catalogue No. as follows :—A= $\frac{3}{8}$ -in. terminal ; B= $\frac{3}{8}$ -in. through ; C= $\frac{1}{2}$ -in. terminal ; D= $\frac{1}{2}$ -in. through.

Four switchway boxes and upwards are supplied undrilled.

### TWO TO TWELVE SWITCHWAY BOXES

Number of switchways.	External dimensions.	Cat. No.	Price each.			
			Box complete with "Landor" Switches and Cover.			Box and Cover only.
	ins.		£	s.	d.	s. d.
2	$6\frac{1}{2} \times 3\frac{1}{2} \times 1\frac{1}{2}$	C <b>6042</b>		<b>10</b>	<b>8</b>	<b>4 4</b>
3	$9\frac{1}{2} \times 3\frac{1}{2} \times 1\frac{1}{2}$	C <b>6043</b>		<b>15</b>	<b>4</b>	<b>6 0</b>
4	$6\frac{1}{2} \times 6\frac{1}{2} \times 1\frac{1}{2}$	C <b>6044</b>		<b>18</b>	<b>8</b>	<b>6 4</b>
5	$9\frac{1}{2} \times 6\frac{1}{2} \times 2\frac{1}{2}$	C <b>6045</b>	<b>1</b>	<b>8</b>	<b>4</b>	<b>10 0</b>
6	$9\frac{1}{2} \times 6\frac{1}{2} \times 2\frac{1}{2}$	C <b>6046</b>	<b>1</b>	<b>12</b>	<b>4</b>	<b>10 4</b>
7	$9\frac{1}{2} \times 9\frac{1}{2} \times 2\frac{1}{2}$	C <b>6047</b>	<b>1</b>	<b>16</b>	<b>4</b>	<b>10 8</b>
8	$9\frac{1}{2} \times 9\frac{1}{2} \times 2\frac{1}{2}$	C <b>6048</b>	<b>2</b>	<b>0</b>	<b>8</b>	<b>11 4</b>
9	$9\frac{1}{2} \times 9\frac{1}{2} \times 2\frac{1}{2}$	C <b>6049</b>	<b>2</b>	<b>4</b>	<b>8</b>	<b>11 8</b>
10	$12\frac{1}{2} \times 9\frac{1}{2} \times 2\frac{1}{2}$	C <b>6050</b>	<b>2</b>	<b>11</b>	<b>0</b>	<b>14 4</b>
11	$12\frac{1}{2} \times 9\frac{1}{2} \times 2\frac{1}{2}$	C <b>6051</b>	<b>2</b>	<b>15</b>	<b>4</b>	<b>14 8</b>
12	$12\frac{1}{2} \times 9\frac{1}{2} \times 2\frac{1}{2}$	C <b>6052</b>	<b>2</b>	<b>19</b>	<b>4</b>	<b>15 4</b>

**Fixing Screws.**—For 15-amp. Switches,  $1 \times \frac{1}{8}$ -in. Whit. Countersunk, **2s. 6d.** per gross.

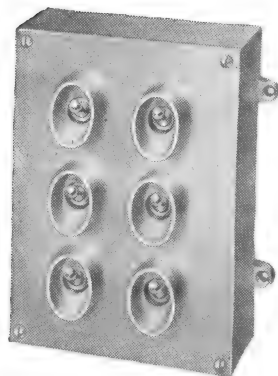
**EXTRAS.**—With Switches—Hot Galvanizing, **15%** ; Sherardizing, **15%**.

Box and Cover only—Hot Galvanizing, **25%** ; Sherardizing, **25%**.

*No extra for SILVERLAC finish.*

## CONDUIT FITTINGS

### MULTIPLE SWITCH BOXES SURFACE PATTERN

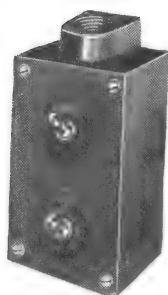


**C 6076**

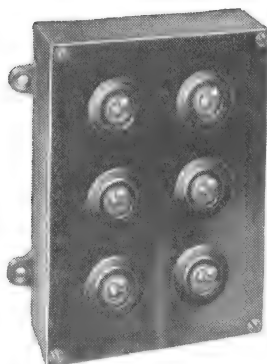
With protected dolly plate.

These Switch Boxes are designed specially for surface work. Each consists of a cast box with a heavy cast cover secured by four 2 B.A. round-headed screws; the cover is ridged where the dollies protrude so that no switch rings are required. Up to and including the four switchway box the switches are screwed directly to the base of the box. In the five switchway box and upwards they are mounted on a fixed grid as illustrated, the space underneath allowing plenty of room for wiring; these sizes are fitted with outside fixing lugs.

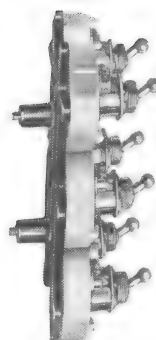
NOTE.—Protected dolly lids can be supplied up to twelve ways only in either the 5-amp. or the 15-amp. range at 4d. per way extra.



**C 6072** Typical of  
One, Two, and Three  
switchway Boxes.



**C 6076**  
Six switchway Box  
complete.



**C 6076** Six switch-  
way Grid and Switches  
only.

When supplied complete, 5-amp. Switch Boxes are fitted with Cat. No. S 251 "Londor" Rapid Make and Break earthed Flush Switches (with Polished Brass dollies). Alternatively Bakelite Switches (either "Londor" or "Slick" patterns) can be supplied (at appropriate prices) if specified at the time of ordering.

**Tapping.**—One and two switchway boxes can be supplied tapped either  $\frac{1}{8}$  or  $\frac{1}{4}$ -in. E.T., terminal (at prices given) or through (at 6d. each extra); three switchway boxes can be supplied tapped  $\frac{1}{8}$ -in., terminal (at prices given) or through (at 6d. each extra). When ordering by Catalogue Nos. only, tapping required must be denoted by letters placed after the Catalogue No. as follows :—A =  $\frac{1}{8}$ -in. terminal; B =  $\frac{1}{8}$ -in. through; C =  $\frac{1}{4}$ -in. terminal; D =  $\frac{1}{4}$ -in. through.

Four switchway boxes and upwards are supplied undrilled.

# CONDUIT FITTINGS

## MULTIPLE SWITCH BOXES, SURFACE PATTERN

### 5 AMP.

Number of switchways.	External dimensions.	Cat. No.	Price each.					
			Box complete with "Landon" Switches and Cover.			Box and Cover only.		
	ins.		£	s.	d.	£	s.	d.
1	$2\frac{1}{2} \times 2\frac{1}{2} \times 1\frac{1}{2}$	C 6071	3	4		1	8	
2	$4\frac{1}{2} \times 2\frac{1}{2} \times 1\frac{1}{2}$	C 6072	5	4		2	0	
3	$6\frac{1}{8} \times 2\frac{1}{2} \times 1\frac{1}{2}$	C 6073	7	4		2	4	
4	$5\frac{1}{2} \times 5\frac{1}{2} \times 1\frac{1}{2}$	C 6074	12	0		5	4	
5	$7\frac{1}{2} \times 5\frac{1}{2} \times 2$	C 6075	15	0		6	8	
6		C 6076	18	0		8	0	
7		C 6077	1	1	0	9	4	
8	$8 \times 8 \times 2$	C 6078	1	4	0	10	8	
9		C 6079	1	7	0	12	0	
10		C 6080	1	10	0	13	4	
11	$10 \times 8 \times 2$	C 6081	1	13	0	14	8	
12		C 6082	1	16	0	16	0	
13		C 6083	1	19	0	17	4	
14	$10 \times 10 \times 2$	C 6084	2	2	0	18	8	
15		C 6085	2	5	0	1	0	0
16		C 6086	2	8	0	1	1	4
17	$12 \times 10 \times 2$	C 6087	2	11	0	1	2	8
18		C 6088	2	14	0	1	4	0
19		C 6089	2	17	0	1	5	4
20	$12 \times 10 \times 2$	C 6090	3	0	0	1	6	8
21		C 8091	3	3	0	1	8	0
22		C 8092	3	6	0	1	9	4
23	$12 \times 12 \times 2\frac{1}{2}$	C 8093	3	9	0	1	10	8
24		C 8094	3	12	0	1	12	0
25		C 8095	3	15	0	1	13	4
26	$14 \times 12\frac{1}{2} \times 2\frac{1}{2}$	C 8096	3	18	0	1	14	8
27		C 8097	4	1	0	1	16	0
28		C 8098	4	4	0	1	17	4
29	$14 \times 14 \times 2\frac{1}{2}$	C 8099	4	7	0	1	18	8
30		C 8100	4	10	0	2	0	0
31		C 8101	4	13	0	2	1	4
32	$14 \times 14 \times 2\frac{1}{2}$	C 8102	4	16	0	2	2	8
33		C 8103	4	19	0	2	4	0
34		C 8104	5	2	0	2	5	4
35		C 8105	5	5	0	2	6	8
36		C 8106	5	8	0	2	8	0

EXTRAS.—For Galvanizing: Mounted pattern, 15%; Unmounted pattern, 25%.  
For **Protected Cover**, from 1 to 12-way, 4d. per way.

## 5-AMP. MULTIPLE SURFACE SWITCH AND PLUG BOXES

### SCREWED OR LUG GRIP (Pressed Steel)

$\frac{1}{8}$  or  $\frac{1}{4}$ -in. Terminal Type with Knock-out Hole at Bottom.

Description.	Catalogue No.		Price each.
	SCREWED.	LUG GRIP.	
Two-gang box complete with S 251 earthed "Landon" Switch, S 482 Flat Ring, and S 774 Two-pin Socket Outlet, Plug and Ring mounted on base of box .. ..	CA 6101	CS 6101	6 0
Ditto, but S 640 Three-pin Socket Outlet and Plug .. ..	CA 6102	CS 6102	6 4

EXTRAS.—Hot Galvanizing, 15%; Sherardizing, 15%.

No extra for SILVERLAC finish.

## CONDUIT FITTINGS

### MULTIPLE SWITCH BOXES, SURFACE PATTERN

#### 15 AMP.

Number of switchways.	External dimensions.	Cat. No.	Price each.					
			Box complete with "Londor" Switches and Cover.			Box and Cover only.		
	Ins.		£	s.	d.	£	s.	d.
1	$3\frac{1}{2} \times 3\frac{1}{2} \times 1\frac{1}{8}$	C 6111	5	4		2	0	
2	$6\frac{1}{2} \times 3\frac{1}{2} \times 1\frac{1}{8}$	C 6112	12	0		4	0	
3	$9\frac{1}{2} \times 3\frac{1}{2} \times 1\frac{1}{8}$	C 6113	18	0		6	0	
4	$7 \times 7 \times 1\frac{1}{8}$	C 6114	1	4	0	8	0	
5	$9\frac{1}{2} \times 6\frac{1}{2} \times 3$	C 6115	1	10	0	10	0	
6		C 6116	1	16	0	12	0	
7		C 6117	2	2	0	14	0	
8	$10 \times 10 \times 3$	C 6118	2	8	0	16	0	
9		C 6119	2	14	0	18	0	
10		C 6120	3	0	0	1	0	0
11	$12\frac{1}{2} \times 10 \times 3$	C 6121	3	6	0	1	2	0
12		C 6122	3	12	0	1	4	0
13		C 6123	3	18	0	1	6	0
14	$12\frac{1}{2} \times 12\frac{1}{2} \times 3$	C 6124	4	4	0	1	8	0
15		C 6125	4	10	0	1	10	0
16		C 6126	4	16	0	1	12	0
17	$15 \times 12\frac{1}{2} \times 3$	C 6127	5	2	0	1	14	0
18		C 6128	5	8	0	1	16	0
19		C 6129	5	14	0	1	18	0
20		C 6129A	6	0	0	2	0	0

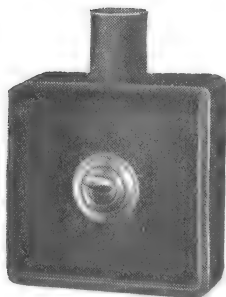
EXTRAS.—Galvanized: Mounted 15%; Unmounted 25%.

Protected Cover, 1-12 way, 4d. per way.

### 5-AMP. SWITCH BOXES

#### PRESSED STEEL

5 amp.



CA 6071 Screwed.



CS 6071 Lug Grip.

$\frac{1}{8}$  or  $\frac{1}{4}$ -in. Terminal type with knock-out hole at bottom.

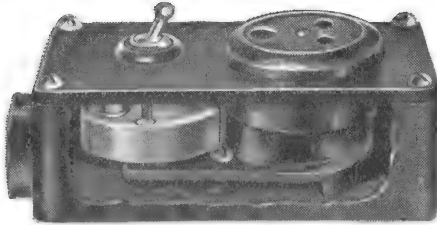
Fitted with S 251 earthed "Londor" rapid make rapid break switch and S 482 flat ring (standard finish, polished brass).

Number of switchways.	Catalogue No.		Price per dozen.					
	SCREWED.	LUG GRIP.	Box complete with "Londor" Switches and Cover.			Box and Cover only.		Boxes only.
			£	s.	d.	£	s.	d.
1	CA 6071	CS 6071	1	6	0	9	8	8
2	CA 6072	CS 6072	2	9	8	17	0	14
3	CA 6073	CS 6073	3	11	0	1	2	16
4	CA 6074	CS 6074	4	19	4	1	12	1
5	CA 6075	CS 6075	5	17	8	1	16	1
6	CA 6076	CS 6076	6	16	0	1	18	1

EXTRAS.—Hot Galvanizing, 15%; Sherardizing, 15%.

No extra for SILVERLAC finish.

## CONDUIT FITTINGS MULTIPLE SWITCH BOXES, SURFACE PATTERN 5-AMP. SWITCH AND PLUG BOXES



C 6103



S 891A

Description.	External dimensions.	Cat. No.	Tapping.	Price each. (Box complete with "Landor" Switch, Socket and Plug.)	
	ins.			s.	d.
One switch (S 251) and one two-pin socket, ring and plug (S 690) mounted on base of box .. ..	$4\frac{1}{2} \times 2\frac{3}{32} \times 1\frac{1}{8}$	C 6101	{ Terminal Through	8 9	8 4
One switch (S 251) and one three-pin socket, disc and plug (S 891A) mounted on base of box .. ..	$4\frac{1}{2} \times 2\frac{3}{32} \times 1\frac{1}{8}$	C 6102	{ Terminal Through	8 8	0 4
One 5-amp. switch (S 251), 2-amp. 3-pin socket (S 800) and flat bakelite plug (S 801) all on fixed grid .. ..	$5\frac{1}{2} \times 2\frac{1}{8} \times 1\frac{1}{4}$	C 6100	{ Terminal Through	8 8	4 8
One switch (S 251) and one three-pin socket and plug (S 891A), mounted on fixed malleable iron grid .. ..	$5\frac{1}{2} \times 2\frac{1}{8} \times 1\frac{1}{4}$	C 6103	{ Terminal Through	9 10	8 0

### 15-AMP. SWITCH AND PLUG BOXES

Description.	External dimensions.	Cat. No.	Tapping.	Price each. (Box complete with "Landor" Switch, Socket and Plug.)	
	ins.			s.	d.
One switch (S 281) and one two-pin socket, ring and plug (S 696) mounted on base of box .. ..	$6 \times 3\frac{1}{4} \times 1\frac{5}{8}$	C 6130	{ Terminal Through	14 14	4 8
One switch (S 281) and one three-pin socket, disc and plug (S 887A) mounted on base of box .. ..	$6 \times 3\frac{1}{4} \times 1\frac{5}{8}$	C 6131	{ Terminal Through	14 14	0 4
One switch (S 281) and one three-pin socket and handshield plug (S 887A), mounted on fixed malleable iron grid .. ..	$6\frac{3}{4} \times 3\frac{1}{4} \times 2\frac{1}{8}$	C 6132	{ Terminal Through	15 16	8 0

**Fixing Screws.**—For 5-amp. Switches,  $\frac{5}{8} \times \frac{1}{4}$ -in. Whit. Countersunk, 2s. 0d. per gross; for 5-amp. Plugs,  $1 \times \frac{1}{4}$ -in. Whit. Countersunk, 2s. 4d. per gross. For 15-amp. Switches or Plugs,  $\frac{3}{4} \times \frac{1}{4}$ -in. Whit. Countersunk, 2s. 0d. per gross.

**Tapping.**—Switch and plug boxes can be supplied tapped either  $\frac{1}{8}$  or  $\frac{1}{4}$ -in. E.T., terminal or through.\*

\* When ordering by Catalogue Nos. only, the tapping required must be denoted by letters placed after the Catalogue No. as follows :—A= $\frac{1}{8}$ -in. terminal; B= $\frac{1}{8}$ -in. through; C= $\frac{1}{4}$ -in. terminal; D= $\frac{1}{4}$ -in. through.

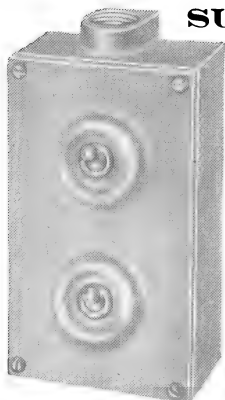
**EXTRAS.**—With Switches: Hot Galvanizing, 15%; Sherardizing, 15%.

Box and Cover only: Hot Galvanizing, 25%; Sherardizing, 25%.

No extra for SILVERLAC finish.

# S.E.C.

## CONDUIT FITTINGS SURFACE SWITCH BOXES 5 AMP. LARGE PATTERN.



C 6092

These switch boxes have the switches mounted on rubber pads. The box is similar in design to the standard C 607 range, but the dimensions have been increased to provide for cases where a particularly large space for wiring is required.

Number of switchways.	Cat. No.	External dimensions.	Price each (Box, Cover and 8 251 Switches).		
		ins.	s.	d.	
1	C 6091	3 $\frac{1}{2}$ × 3 $\frac{1}{2}$ × 1 $\frac{1}{2}$	3	8	
2	C 6092	3 $\frac{1}{2}$ × 5 $\frac{1}{2}$ × 1 $\frac{1}{2}$	6	0	
3	C 6093	3 $\frac{1}{2}$ × 8 $\frac{1}{2}$ × 1 $\frac{1}{2}$	8	0	
4	C 6094	5 $\frac{1}{2}$ × 5 $\frac{1}{2}$ × 1 $\frac{1}{2}$	13	0	
5	C 6095	8 $\frac{1}{2}$ × 8 $\frac{1}{2}$ × 1 $\frac{1}{2}$	15	0	
6	C 6096	8 $\frac{1}{2}$ × 8 $\frac{1}{2}$ × 1 $\frac{1}{2}$	19	4	

## 2 SWITCHWAY WALL PLUG BOXES (MALLEABLE IRON)

5 AMP AND 15 AMP. 3-PIN



C 6172/5 (Through Screwed).

Screwed only. Fitted with S900 Bakelite flanged Type Three-pin Socket and S891A Plug.

Size of conduit.	TERMINAL.			BACK OUTLET.		
	Type.	Cat. No.	Price per doz.	Type.	Cat. No.	Price per doz.
ins.			£ s. d.			£ s. d.
$\frac{5}{8}$		C 6142	3 6 8		C 6152	3 6 8
$\frac{3}{4}$		C 6143	3 7 8		C 6153	3 7 8
1		C 6145	3 9 4			

Size of conduit.	THROUGH.			TEE.		
	Type.	Cat. No.	Price per doz.	Type.	Cat. No.	Price per doz.
ins.			£ s. d.			£ s. d.
$\frac{5}{8}$		C 6172	3 7 8		C 6192	3 8 8
$\frac{3}{4}$		C 6173	3 9 0		C 6193	3 10 0
1		C 6175	3 11 0		C 6195	3 13 4

## 15 AMP. 3-PIN

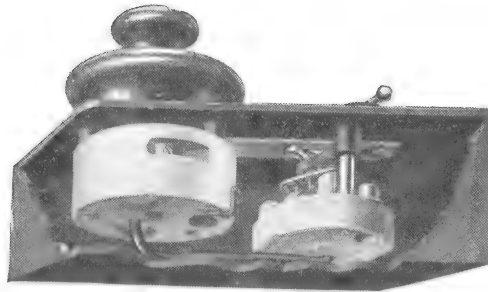
Screwed only. Fitted with S926 Bakelite flanged Type Three-pin Socket and S887A Plug.

Size of conduit.	TERMINAL.			THROUGH.			TEE.		
	Type.	Cat. No.	Price each.	Type.	Cat. No.	Price each.	Type.	Cat. No.	Price each.
ins.			s. d.			s. d.			s. d.
$\frac{3}{4}$		C 6233	11 8		C 6253	12 0		C 6273	12 4
1		C 6235	12 0		C 6255	12 4		C 6275	12 8

EXTRAS.—Hot Galvanizing, 15% ; Sherardizing, 15% ; Screwed Gas Thread, 10%.  
No extra for SILVERLAC finish.



**CONDUIT FITTINGS  
INTERLOCKING SWITCH-PLUG BOXES  
(CAST IRON)  
STANDARD PATTERN**

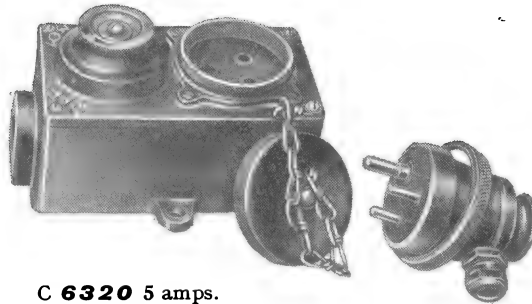


C **6300** 5 amps.  
Tapped  $\frac{1}{2}$ -in. E.T. terminal only.

Capacity.	Outside dimensions.	Cat. No.	Description.	Price each.		
amps.	ins.			£	s.	d.
5	$5\frac{1}{2} \times 2\frac{3}{4} \times 2\frac{1}{2}$	C <b>6300</b>	Single pole, with S <b>251</b> Switch and S <b>893</b> 3-pin Socket and Plug ..	16	8	
5	$4\frac{1}{2} \times 2\frac{1}{2} \times 1\frac{1}{2}$	C <b>6302</b>	Single pole with S <b>251</b> Switch, S <b>645</b> Socket Outlet and 3-pin Plug S <b>358A</b> , tapped $\frac{1}{2}$ terminal Ditto, $\frac{1}{2}$ -in. through ..	9	8	
15	$6\frac{1}{2} \times 3\frac{1}{2} \times 2\frac{1}{2}$	C <b>6310</b>	Single pole, with S <b>281</b> Switch and S <b>895</b> 3-pin Socket and Plug ..	10	4	
				1	5	4

EXTRA.—With protected dolly cover, 8d. each.

**WATERTIGHT PATTERN**



C **6320** 5 amps.  
Tapped  $\frac{1}{2}$ -in. E.T. terminal only.

Capacity.	Outside dimensions.	Cat. No.	Description.	Price each.		
amps.	ins.			£	s.	d.
5	$5\frac{1}{2} \times 2\frac{3}{4} \times 2\frac{1}{2}$	C <b>6320</b>	Single pole with S <b>251</b> Switch, S <b>893</b> 3-pin Socket, and Special Plug .. .. .	1	2	8
15	$6 \times 3\frac{1}{2} \times 1\frac{1}{2}$	C <b>6312</b>	Single pole with S <b>381</b> Switch, S <b>665</b> Socket Outlet and 3-pin Plug S <b>451</b> , tapped $\frac{1}{2}$ terminal .. .. .	17	0	
15	$6\frac{1}{2} \times 3\frac{1}{2} \times 2\frac{1}{2}$	C <b>6330</b>	Single pole with S <b>281</b> Switch, S <b>895</b> 3-pin Socket, and Special Plug .. .. .	1	17	4

EXTRAS.—With protected dolly cover, 8d. each. Hot Galvanizing, 15% ;  
Sherardizing, 15%.

*No extra for SILVERLAC finish.*

## CONDUIT FITTINGS ADAPTORS (MALLEABLE IRON)



**C 6352/8**  
Grip Nipple.



**CP 6361/8**  
Screwed to  
Pin Grip.



**CW 6361/8**  
Screwed to  
Lug Grip.

GRIP NIPPLE.			
Size of conduit.		Cat. No.	Price per dozen.
Male Thread.	Female Plain Split.		
ins.	ins.		s. d.
$\frac{5}{8}$ E.T.	$\frac{1}{2}$ P.G.	<b>C 6352</b>	<b>2 8</b>
$\frac{3}{4}$ E.T.	$\frac{3}{4}$ P.G.	<b>C 6353</b>	<b>2 8</b>
$\frac{1}{2}$ E.T.	$\frac{1}{2}$ P.G.	<b>C 6355</b>	<b>4 4</b>
1 E.T.	1 P.G.	<b>C 6356</b>	<b>11 4</b>
1 $\frac{1}{2}$ E.T.	1 $\frac{1}{2}$ P.G.	<b>C 6357</b>	<b>28 0</b>
2 E.T.	2 P.G.	<b>C 6358</b>	<b>44 8</b>

SCREWED TO PIN GRIP.			
Size of conduit.		Cat. No.	Price per dozen.
Male.	Female.		
ins.	ins.		s. d.
$\frac{5}{8}$ E.T.	$\frac{1}{2}$ P.G.	<b>CP 6361</b>	<b>3 4</b>
$\frac{3}{4}$ E.T.	$\frac{3}{4}$ P.G.	<b>CP 6362</b>	<b>3 4</b>
$\frac{1}{2}$ E.T.	$\frac{1}{2}$ P.G.	<b>CP 6363</b>	<b>4 0</b>
1 E.T.	1 P.G.	<b>CP 6365</b>	<b>5 0</b>
1 $\frac{1}{2}$ E.T.	1 $\frac{1}{2}$ P.G.	<b>CP 6366</b>	<b>6 8</b>
1 $\frac{1}{2}$ E.T.	1 $\frac{1}{2}$ P.G.	<b>CP 6367</b>	<b>8 8</b>
2 E.T.	2 P.G.	<b>CP 6368</b>	<b>12 0</b>

SCREWED TO LUG GRIP.			
Size of conduit.		Cat. No.	Price per dozen.
Male.	Female.		
ins.	ins.		s. d.
$\frac{5}{8}$ E.T.	$\frac{1}{2}$ L.G.	<b>CW 6361</b>	<b>4 8</b>
$\frac{3}{4}$ E.T.	$\frac{3}{4}$ L.G.	<b>CW 6362</b>	<b>4 8</b>
$\frac{1}{2}$ E.T.	$\frac{1}{2}$ L.G.	<b>CW 6363</b>	<b>5 0</b>
1 E.T.	1 L.G.	<b>CW 6365</b>	<b>5 4</b>
1 $\frac{1}{2}$ E.T.	1 $\frac{1}{2}$ L.G.	<b>CW 6366</b>	<b>7 8</b>
1 $\frac{1}{2}$ E.T.	1 $\frac{1}{2}$ L.G.	<b>CW 6367</b>	<b>10 0</b>
2 E.T.	2 L.G.	<b>CW 6368</b>	<b>13 4</b>



**C 6381/4**  
E.T. to Gas.



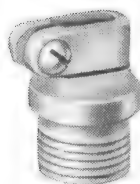
**C 6391/6**  
Gas or E.T. to Brass or Gas.

ELECTRIC TO GAS THREAD.			
Size of conduit.		Cat. No.	Price per dozen.
Male.	Female.		
ins.	ins.		s. d.
$\frac{5}{8}$ E.T.	$\frac{3}{8}$ Gas	<b>C 6381</b>	<b>4 0</b>
$\frac{3}{4}$ Gas	$\frac{1}{2}$ E.T.	<b>C 6382</b>	<b>4 4</b>
$\frac{1}{2}$ E.T.	$\frac{1}{4}$ Gas	<b>C 6383</b>	<b>5 0</b>
$\frac{1}{4}$ Gas	$\frac{1}{8}$ E.T.	<b>C 6384</b>	<b>5 4</b>

ELECTRIC TO BRASS or GAS THREADS, etc.			
Size of conduit.		Cat. No.	Price per dozen.
Male.	Male.		
ins.	ins.		s. d.
$\frac{1}{2}$ Gas	$\frac{5}{8}$ Brass	<b>C 6391</b>	<b>5 4</b>
$\frac{3}{8}$ Gas	$\frac{3}{8}$ Brass	<b>C 6392</b>	<b>5 0</b>
$\frac{1}{4}$ E.T.	$\frac{1}{4}$ Brass	<b>C 6393</b>	<b>5 4</b>
$\frac{1}{4}$ E.T.	$\frac{1}{8}$ Brass	<b>C 6394</b>	<b>5 0</b>
$\frac{1}{8}$ E.T.	$\frac{1}{8}$ Gas	<b>C 6395</b>	<b>6 0</b>
1 E.T.	$\frac{1}{4}$ Gas	<b>C 6396</b>	<b>7 4</b>

### BONDING NIPPLES

These adaptors enable lead-covered cable to be effectually earthed and connected to a conduit system.

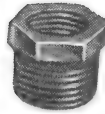


**C 7373**

Cat. No.	Size of conduit. Male thread.	Size of lead-covered cable.	Price per dozen.
	ins.	No. in.	s. d.
<b>C 7372</b>	$\frac{5}{8}$	1/.044	<b>5 4</b>
<b>C 7382</b>	$\frac{3}{4}$	3/.029	
<b>C 7392</b>	$\frac{1}{2}$	3/.036	
<b>C 7373</b>	$\frac{3}{4}$	1/.044	
<b>C 7383</b>	$\frac{1}{2}$	3/.029	
<b>C 7393</b>	$\frac{1}{4}$	3/.036	
<b>C 7403</b>	$\frac{1}{8}$	7/.029	<b>5 4</b>
<b>C 7413</b>	$\frac{1}{8}$	7/.044	
<b>C 7423</b>	$\frac{1}{8}$	1/.044	
<b>C 7433</b>	$\frac{1}{8}$	3/.029	
<b>C 7443</b>	$\frac{1}{8}$	3/.036	

No extra for SILVERLAC finish.

## CONDUIT FITTINGS REDUCERS (MALLEABLE IRON)



C 6401/14 Screwed.

Size of conduit.		SCREWED.		PIN GRIP.	
Male.	Female.	Cat. No.	Price per dozen.	Cat. No.	Price per dozen.
ins.	ins.		s. d.		s. d.
$\frac{1}{8}$	$\frac{1}{2}$	C 6401	2 0	CP 6401	2 0
$\frac{3}{8}$	$\frac{1}{2}$	C 6402	2 4	CP 6402	2 4
$\frac{1}{2}$	$\frac{1}{2}$	C 6403	2 4	CP 6403	2 4
1	$\frac{1}{2}$	C 6404	3 8	—	—
1	$\frac{3}{4}$	C 6405	3 8	CP 6405	3 8
1	1	C 6406	3 8	CP 6406	3 8
$1\frac{1}{4}$	1	C 6407	6 0	—	—
$1\frac{1}{2}$	1	C 6408	6 0	—	—
$1\frac{3}{4}$	1	C 6409	7 8	—	—
2	$1\frac{1}{2}$	C 6410	7 8	—	—
2	2	C 6411	15 8	—	—
2	$2\frac{1}{2}$	C 6412	15 8	—	—
2	2	C 6413	15 8	—	—
$2\frac{1}{2}$	2	C 6414	18 8	—	—

Size of conduit.		LUG GRIP (MI).		LUG GRIP (P.S.).	
Male.	Female.	Cat. No.	Price per dozen.	Cat. No.	Price per gross.
ins.	ins.		s. d.		£ s. d.
$\frac{1}{8}$	$\frac{1}{2}$	CW 6401	3 4	CS 6401	1 0 4
$\frac{3}{8}$	$\frac{1}{2}$	CW 6402	3 4	—	—
$\frac{1}{2}$	$\frac{1}{2}$	CW 6403	3 8	CS 6403	1 3 4
1	$\frac{1}{2}$	—	—	—	—
1	$\frac{3}{4}$	CW 6405	4 4	—	—
1	1	CW 6406	5 0	—	—

## BRASS TUBE ENDS AND BUSHES

Size of conduit.	BRASS TUBE ENDS. Female Thread.				BRASS BUSHES. Male Thread. Hexagon Head.				SMOOTH BORE BRASS BUSHES. Round Milled Head.			
	Cat. No.		Price per dozen.		Cat. No.		Price per dozen.		Cat. No.		Price per dozen.	
	ins.		£	s. d.			£	s. d.			s. d.	
$\frac{1}{8}$	C 6421	1	4		C 6441	2	0		—		—	
$\frac{3}{8}$	C 6422	1	4		C 6442	2	0		C 6452	2	0	
$\frac{1}{2}$	C 6433	1	4		C 6443	2	8		C 6453	2	8	
1	C 6435	2	0		C 6445	4	8		C 6455	4	8	
$1\frac{1}{4}$	C 6436	3	0		C 6446	6	0		C 6456	6	0	
$1\frac{1}{2}$	C 6437	5	0		C 6447	12	8		C 6457	12	8	
2	C 6438	7	8		C 6448	1	1	0	C 6458	21	0	
$2\frac{1}{2}$	C 6439	1	13	4	C 6449	2	0	0	—		—	
3	C 6440	2	2	8	C 6450	2	1	8	—		—	



C 6421/40



C 6441/50



C 6452/8

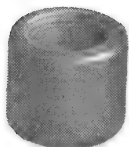
EXTRAS.—Hot Galvanizing, 15% ; Sherardizing, 15% ; Screwed Gas Thread (reducers only), 10%.

# S.E.C.

## CONDUIT FITTINGS

### TUBE ENDS, BUSHES, LOCK NUTS, PLUGS, ETC.

(For Brass Bushes, Tube Ends and Lock Nuts, see also illustration, page 271.)



C 6461/8



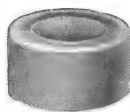
C 6481/8

Size of conduit.	RUBBER TUBE ENDS. Plain.		BELL MOUTH TUBE ENDS. Female Thread.	
	Cat. No.	Price per dozen.	Cat. No.	Price per dozen.
ins.		s. d.		s. d.
$\frac{1}{2}$	C 6461	1 0	C 6481	2 0
$\frac{3}{8}$	C 6462	1 0	C 6482	2 4
$\frac{1}{4}$	C 6463	1 4	C 6483	3 4
1	C 6465	2 0	C 6485	4 8
$1\frac{1}{4}$	C 6466	3 4	C 6486	8 0
$1\frac{1}{2}$	C 6467	4 4	C 6487	11 8
2	C 6468	5 0	C 6488	21 4
$2\frac{1}{2}$	C 6469	6 4	—	—

Size of conduit.	LEAD WASHERS.		" WITTONITE " TUBE ENDS. Plain.		" WITTONITE " BUSHES. Plain.	
	Cat. No.	Price per dozen.	Cat. No.	Price per gross.	Cat. No.	Price per gross.
ins.		s. d.		s. d.		s. d.
$\frac{1}{2}$	C 6491	8	C 6501	5 0	C 6511	5 0
$\frac{3}{8}$	C 6492	8	C 6502	5 4	C 6512	5 4
$\frac{1}{4}$	C 6493	8	C 6503	6 0	C 6513	6 0
1	C 6495	8	C 6505	8 0	C 6515	8 0
$1\frac{1}{4}$	C 6496	1 0	C 6506	10 8	C 6516	10 8
$1\frac{1}{2}$	C 6497	1 0	C 6507	14 0	C 6517	14 0
2	C 6498	1 4	C 6508	21 0	C 6518	21 0



C 6491/8



C 6501/8



C 6511/8



C 6521/8



C 6531/8



C 6541/8

Size of conduit.	" WITTONITE " TUBE ENDS. Female Thread.		" WITTONITE " BUSHES. Male Thread.		NIPPLES. Male Thread.	
	Cat. No.	Price per gross.	Cat. No.	Price per gross.	Cat. No.	Price per dozen.
ins.		s. d.		s. d.		s. d.
$\frac{1}{2}$	C 6521	5 0	C 6531	5 0	C 6541	2 0
$\frac{3}{8}$	C 6522	5 4	C 6532	5 4	C 6542	2 4
$\frac{1}{4}$	C 6523	6 0	C 6533	6 0	C 6543	2 8
1	C 6525	8 0	C 6535	8 0	C 6545	3 4
$1\frac{1}{4}$	C 6526	10 8	C 6536	10 8	C 6546	6 4
$1\frac{1}{2}$	C 6527	14 0	C 6537	14 0	C 6547	7 8
2	C 6528	21 0	C 6538	21 0	C 6548	10 0

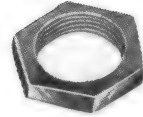
EXTRAS.—Hot Galvanizing, 15% ; Sherardizing, 15% ; Screwed Gas Thread, 10%.

No extra for SILVERLAC finish.

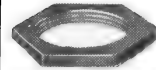
# CONDUIT FITTINGS

## LOCK NUTS, PLUGS, ETC.

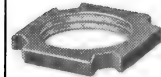
Size of con- duit.	HEAVY HEXAGON LOCK NUTS.			*LIGHT HEXAGON LOCK NUTS.			*LIGHT CASTELLATED LOCK NUTS.					
	Cat. No.	Price per gross.			Cat. No.	Price per gross.			Cat. No.	Price per gross.		
ins.		£	s.	d.		£	s.	d.		£	s.	d.
$\frac{1}{2}$	C 6551	9	0	—	—	—	—	—	—	—	—	—
$\frac{3}{4}$	C 6552	11	8	—	CA 6562	6	0	—	CA 6602	6	0	—
$\frac{1}{2}$	C 6553	13	4	—	CA 6563	7	8	—	CA 6603	7	8	—
1	C 6555	19	8	—	CA 6565	11	4	—	CA 6605	11	4	—
$1\frac{1}{2}$	C 6556	1	11	4	CA 6566	17	4	—	CA 6606	17	0	—
$1\frac{1}{2}$	C 6557	2	11	8	CA 6567	1	7	8	CA 6607	1	7	8
2	C 6558	3	18	4	CA 6568	2	17	0	CA 6608	2	17	0
$2\frac{1}{2}$	C 6559	6	11	8	—	—	—	—	—	—	—	—
3	C 6560	9	12	0	—	—	—	—	—	—	—	—



C 6551/60

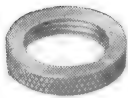


CA 6562/8



CA 6602/8

\*EXTRAS.—Hot Galvanizing, 20%.



C 6571/8



C 6581/8



C 6592/8

Size of con- dukt.	ROUND LOCK NUTS. Milled Edge.			IRON PLUGS. Hexagon Head.		BRASS PLUGS. Slotted Head.			
	Cat. No.	Price per gross.		Cat. No.	Price per dozen.	Cat. No.	Price per dozen.		
ins.		£	s.	d.	s.	d.	s.	d.	
$\frac{1}{2}$	C 6571	15	0	C 6581	1	4	—	—	
$\frac{3}{4}$	C 6572	16	8	C 6582	2	0	C 6592	1 0	
$\frac{1}{2}$	C 6573	19	0	C 6583	2	4	C 6593	1 4	
1	C 6575	1	4	8	C 6585	3	8	C 6595	1 8
$1\frac{1}{2}$	C 6576	3	4	0	C 6586	6	0	C 6596	2 0
$1\frac{1}{2}$	C 6577	4	19	8	C 6587	7	8	C 6597	2 8
2	C 6578	8	10	8	C 6588	12	0	C 6598	4 8

EXTRAS.—Hot Galvanizing, 15% ; Sherardizing, 15% ; Screwed Gas Thread, 10%.

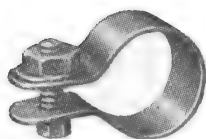
No extra for SILVERLAC finish.

# S.E.C.

## CONDUIT FITTINGS

### EARTHING CLIPS, SOCKETS AND CLAMPS

#### SINGLE EARTHING CLIPS



C 6651/58

Size of conduit.	COPPER.	
	Cat. No.	Price per dozen.
ins.		s. d.
$\frac{1}{2}$	C 6651	1 0
$\frac{3}{4}$	C 6652	1 0
$\frac{1}{2}$	C 6653	1 4
1	C 6655	2 0
$1\frac{1}{4}$	C 6656	2 0
$1\frac{1}{2}$	C 6657	2 8
2	C 6658	3 0

Size of conduit.	ENAMELLED.*		COPPER.	
	Cat. No.	Price per doz.	Cat. No.	Price per doz.
		s. d.		s. d.
$\frac{1}{2}$	C 6661	3 4	C 6671	4 8
$\frac{3}{4}$	C 6662	3 4	C 6672	4 8
$\frac{1}{2}$	C 6663	3 4	C 6673	5 0
1	C 6665	3 8	C 6675	5 4
$1\frac{1}{4}$	C 6666	4 0	C 6676	6 4
$1\frac{1}{2}$	C 6667	4 8	C 6677	7 4
2	C 6668	5 4	C 6678	8 8



C 6661/78  
With Sweating Washer.

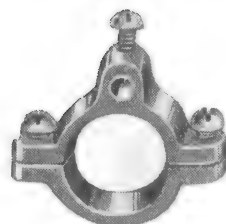
#### DOUBLE EARTHING CLIPS



C 6681/98

Size of conduit.	ENAMELLED.*		COPPER.	
	Cat. No.	Price per dozen.	Cat. No.	Price per dozen.
ins.		s. d.		s. d.
$\frac{1}{2}$	C 6681	3 4	C 6691	5 0
$\frac{3}{4}$	C 6682	3 8	C 6692	5 4
$\frac{1}{2}$	C 6683	4 0	C 6693	6 0
1	C 6685	4 4	C 6695	7 4
$1\frac{1}{4}$	C 6686	4 8	C 6696	8 8
$1\frac{1}{2}$	C 6687	5 4	C 6697	10 8
2	C 6688	7 4	C 6698	13 4

Size of conduit.	CAST.*	
	Cat. No.	Price per dozen.
ins.		s. d.
$\frac{1}{2}$	C 6702	4 0
$\frac{3}{4}$	C 6703	4 8
1	C 6705	5 4
$1\frac{1}{4}$	C 6706	7 4
$1\frac{1}{2}$	C 6707	9 0
2	C 6708	11 8



C 6702/8  
With Screwed Terminal.

\*EXTRAS.—Hot Galvanizing, 15%; Sherardizing, 15%; Screwed Gas Thread (Earthing Sockets only), 10%.

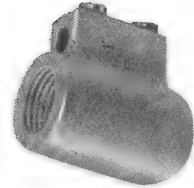
No extra for SILVERLAC finish.

## CONDUIT FITTINGS

### EARTHING CLIPS, SOCKETS AND CLAMPS

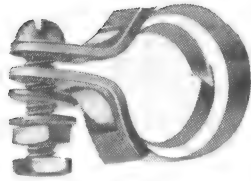
#### EARTHING SOCKETS

Size of conduit.	Cat. No.	Price per dozen.	
ins.		s.	d.
$\frac{1}{2}$	C 6711	3	4
$\frac{3}{8}$	C 6712	3	4
$\frac{3}{4}$	C 6713	4	4
1	C 6715	4	8
$1\frac{1}{4}$	C 6716	8	0
$1\frac{1}{2}$	C 6717	10	8
2	C 6718	16	8



C 6711/8  
Enamelled.\*

#### ADJUSTABLE EARTHING CLIPS



C 6721/2

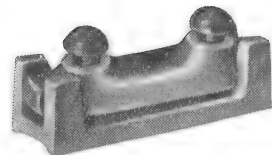
Size.	Cat. No.	Price per dozen.	
		s.	d.
No. 1 (Small) ..	C 6721	2	8
No. 2 (Medium) ..	C 6722	4	4

Cat. No. C 6725 Tinned Copper Tape for No. 1 Size, Price 3s. 8d. per doz. yards.

Cat. No. C 6726 Tinned Copper Tape for No. 2 Size, Price 4s. 8d. per doz. yards.

#### ADJUSTABLE EARTHING CLAMPS

Outside diameter of conduit.	Cat. No.	Price per dozen.	
ins.		s.	d.
$\frac{1}{2}$ to $\frac{3}{4}$	C 6728	6	0
1 to $1\frac{1}{4}$	C 6729	7	4



C 6728/9 Galvanized.

\*EXTRAS.—Hot Galvanizing, 15% ; Sherardizing, 15% ; Screwed Gas Thread (Earthing Sockets only), 10%.

*No extra for SILVERLAC finish.*

# S.E.C.

## CONDUIT FITTINGS CLIPS AND SADDLES

(For Spacing Bar Saddles see also illustration on following page.)



C 6801/8 Clip. C 6811/20 One-way Saddle. C 6841/8 Three-way Saddle.

Size of conduit.	CLIPS.		SADDLES.			
			One-way.		Two-way.	
	Cat. No.	Price per gross.	Cat. No.	Price per gross.	Cat. No.	Price per gross.
Ins.		£ s. d.		£ s. d.		£ s. d.
$\frac{1}{2}$	C 6801	1 8	C 6811	1 8	C 6831	3 0
$\frac{3}{8}$	C 6802	2 0	C 6812	2 0	C 6832	3 4
$\frac{1}{2}$	C 6803	2 4	C 6813	2 4	C 6833	3 8
1	C 6805	3 4	C 6815	3 4	C 6835	8 8
$1\frac{1}{4}$	C 6806	5 4	C 6816	5 4	C 6836	13 0
$1\frac{1}{2}$	C 6807	6 8	C 6817	6 8	C 6837	15 0
2	C 6808	9 8	C 6818	9 8	C 6838	1 0 0
$2\frac{1}{2}$	—	—	C 6819	15 4	—	—
3	—	—	C 6820	1 6 8	—	—

Size of conduit.	SADDLES.			
	Three-way.		Four-way.	
	Cat. No.	Price per gross.	Cat. No.	Price per gross.
Ins.		£ s. d.		£ s. d.
$\frac{1}{2}$	C 6841	3 8	C 6851	4 4
$\frac{3}{8}$	C 6842	4 0	C 6852	5 4
$\frac{1}{2}$	C 6843	5 0	C 6853	6 4
1	C 6845	10 4	C 6855	12 0
$1\frac{1}{4}$	C 6846	14 0	C 6856	16 0
$1\frac{1}{2}$	C 6847	19 8	C 6857	1 1 8
2	C 6848	1 3 0	C 6858	1 6 0

EXTRAS.—Hot Galvanizing, 50% ; Sherardizing, 50%.



C 6862/8  
Light Spacing Saddle.



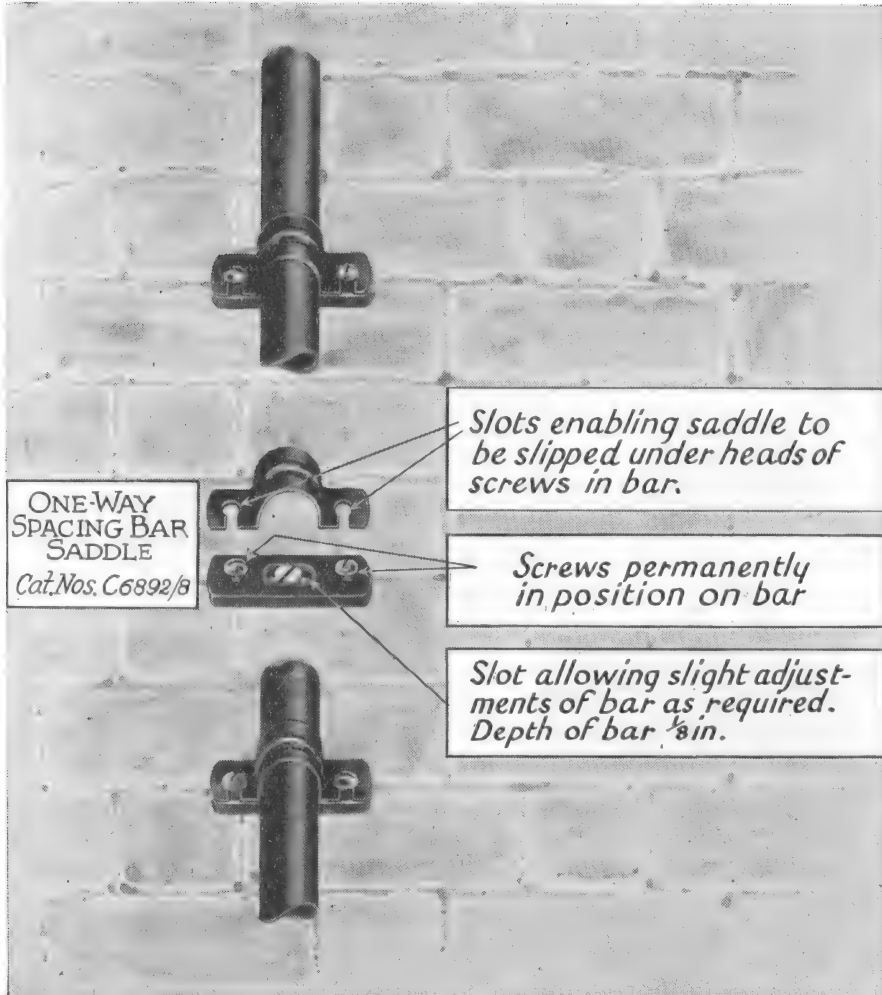
C 6872/8  
Heavy Spacing Saddle.

Size of conduit.	SPACING SADDLES.			
	Light.		Heavy.	
	Cat. No.	Price per doz.	Cat. No.	Price per doz.
Ins.		£ s. d.		£ s. d.
$\frac{1}{2}$	C 6862	4 0	C 6872	4 4
$\frac{3}{8}$	C 6863	4 8	C 6873	4 8
1	C 6865	5 4	C 6875	6 0
$1\frac{1}{4}$	C 6866	7 4	C 6876	7 4
$1\frac{1}{2}$	C 6867	9 0	C 6877	10 0
2	C 6868	11 4	C 6878	14 4

Extra for Galvanizing 25%.

No extra for SILVERLAC finish.



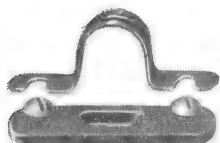
**CONDUIT FITTINGS****NEW AND IMPROVED LABOUR-SAVING PATTERN****SPACING BAR SADDLES**

*For particulars and prices see following page.*

# S.E.C.

## CONDUIT FITTINGS

### SPACING BAR SADDLES, CRAMPETS AND TUBE HOLDERS



**C 6892/8**  
One-way Spacing Bar  
Saddle.  
(See also illustration on  
previous page.)

Size of con- duit.	SPACING BAR SADDLES.											
	One-way.				Two-way.				Three-way.			
	Cat. No.	Price per gross.			Cat. No.	Price per gross.			Cat. No.	Price per gross.		
		£	s.	d.		£	s.	d.		£	s.	d.
ins.	C 6892	1	2	8	C 6902	2	0	0	C 6912	2	5	4
$\frac{3}{8}$	C 6893	1	5	0	C 6903	2	7	4	C 6913	2	14	4
$\frac{1}{2}$	C 6895	1	10	8	C 6905	2	17	0	C 6915	3	8	8
$1\frac{1}{4}$	C 6896	2	2	0	C 6906	4	5	4	C 6916	4	14	4
$1\frac{1}{2}$	C 6897	2	12	0	C 6907	4	17	0	C 6917	5	6	8
2	C 6898	2	19	8	C 6908	5	6	8	C 6918	6	2	0

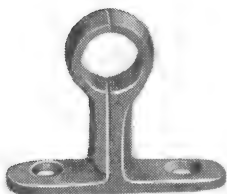


**C 6921/38**  
Crampet.



**C 6942/8**  
Tube Holder with Spikes.

Size of conduit.	CRAMPETS.					
	Light.			Heavy.		
	Cat. No.	Price per gross.		Cat. No.	Price per gross.	
		Enamelled.	Galvanized.		£	s. d.
ins.		s. d.	s. d.			
$\frac{1}{2}$	C 6921	2	0	—	—	—
$\frac{3}{8}$	C 6922	2	0	C 6932	6	0
$\frac{1}{2}$	C 6923	2	4	C 6933	7	0
1	C 6925	3	0	C 6935	8	8
$1\frac{1}{4}$	C 6926	4	0	C 6936	12	8
$1\frac{1}{2}$	C 6927	5	4	C 6937	16	8
2	C 6928	12	0	C 6938	1	1 8



**C 6952/8**  
Tube Holder with Plate.



**C 6962/8**  
Tube Holder, Dowell Pattern.

Size of conduit.	CAST TUBE HOLDERS.					
	With Spikes.		With Plate.		Dowell Pattern.	
	Cat. No.	Price per dozen.	Cat. No.	Price per dozen.	Cat. No.	Price per dozen.
ins.		s. d.		s. d.		s. d.
$\frac{3}{8}$	C 6942	6 8	C 6952	8 0	C 6962	7 8
$\frac{1}{2}$	C 6943	7 8	C 6953	9 0	C 6963	8 0
1	C 6945	9 4	C 6955	10 8	C 6965	10 4
$1\frac{1}{4}$	C 6946	12 8	C 6956	13 4	C 6966	13 0
$1\frac{1}{2}$	C 6947	15 4	C 6957	15 4	C 6967	15 4
2	C 6948	18 0	C 6958	18 4	C 6968	18 4

EXTRAS.—Hot Galvanizing, 25% ; Sherardizing, 25%.

No extra for SILVERLAC finish.

# CONDUIT FITTINGS GIRDER CLIPS



**C 6981/5 Plain.**  
For tubes parallel with girder.



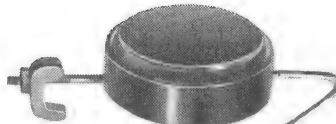
**C 7011/5 Adjustable.**  
For tubes across girder.

Size of conduit.	Size of girder.	PLAIN.			
		For Tubes parallel with Girder.		For Tubes across Girder.	
		Cat. No.	Price per dozen.	Cat. No.	Price per dozen.
ins.	ins.		s. d.		s. d.
$\frac{1}{2}$	6	C 6981	2 4	C 6991	2 4
$\frac{3}{4}$	6	C 6982	2 4	C 6992	2 4
$\frac{1}{2}$	6	C 6983	2 4	C 6993	2 4
1	6	C 6985	2 4	C 6995	2 4

Size of conduit.	Size of girder.	ADJUSTABLE.			
		For Tubes parallel with Girder.		For Tubes across Girder.	
		Cat. No.	Price per dozen.	Cat. No.	Price per dozen.
ins.	ins.		s. d.		s. d.
$\frac{1}{2}$	6	C 7001	4 4	C 7011	4 8
$\frac{3}{4}$	6	C 7002	4 4	C 7012	4 8
$\frac{1}{2}$	6	C 7003	4 4	C 7013	4 8
1	6	C 7005	4 4	C 7015	4 8

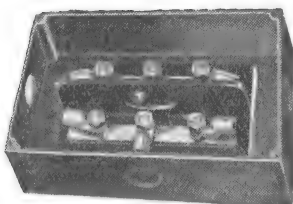
**Adjustable Girder Clips with Blocks** (for 6-in. Girders), Cat. No. C 7020, 7s. 0d. per dozen.

NOTE.—Girder Clips to accommodate other sizes of Conduit or for wider girders can be supplied if required. Prices on application.

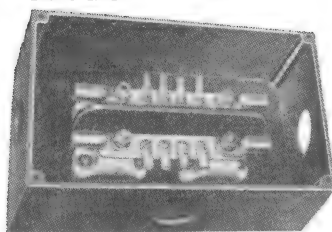


**C 7020**

## CONNECTION BOXES



Adaptable Junction Box mounted with two copper busbars on porcelain bases. Each busbar is fitted with two 100-amp. cable sockets and four 25/30-amp. teeing-off sockets. The box is fitted with dividing fillets. The busbars are so arranged that the leads may be taken underneath.



Adaptable Junction Box mounted with two 100-amp. double-pole copper busbars with cable sockets and teeing-off sockets. The busbars are mounted on a Sindanyo base with a dividing fillet.

Connection box interiors can be made to any specification with either slate or Sindanyo bases and solid copper busbars bolted to pillars or bases and fitted into any of the Adaptable Junction Boxes listed on pages 276/277 for connecting main cables, etc., up to 250 amps. Delivery of boxes made to customer's specification will take place a few days after receipt of order. Complete details of requirements should be given.

EXTRAS.—Hot Galvanizing, 20% ; Sherardizing, 20%.

No extra for SILVERLAC finish.

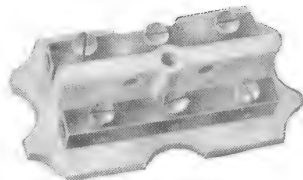
## CONDUIT FITTINGS CONNECTING BASES AND CONNECTORS PORCELAIN CONNECTING BASES



**C 7030**



**C 7031**



**C 7035**

Cat. No.	Capacity.	Description.	Base.	Price per dozen.	
				s.	d.
<b>C 7030</b>	amps. 5	D.P. Porcelain Connecting Base with loop-in terminal .. .. .	2½ diam.	<b>10</b>	<b>8</b>
<b>C 7031</b>	5/8	D.P. 2-way Branch Porcelain Connecting Base .. .. .	2½ diam.	<b>9</b>	<b>8</b>
<b>C 7032</b>	10/15	D.P. 4-way Branch Porcelain Connecting Base .. .. .	2½ diam.	<b>13</b>	<b>0</b>
<b>C 7035</b>	10/20	D.P. Porcelain Connecting Base for B.S.S. Oblong Boxes .. .. .	3½ × 1½	<b>17</b>	<b>4</b>

### CONNECTING BASES

For B.S.S. Oblong Junction Boxes.



**C 7037/8**

Cat. No.	Capacity.	Description.	Base.	Price each.	
				s.	d.
<b>C 7037</b>	amps. 50	D.P. Base, with 2 busbars, ½ × ½ × 2½ in., with 5 cable holes in each ..	4 × 2	<b>5</b>	<b>0</b>
<b>C 7038</b>	100	D.P. Base, with 2 busbars, ½ × ½ × 4 in., with 5 cable holes in each ..	7 × 3	<b>8</b>	<b>8</b>

### PORCELAIN CONNECTORS

**5 AMP.**

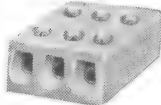
**10 AMP.**



**C 7040**



**C 7041**



**C 7042**



**C 7045**



**C 7046**



**C 7047**

No. of Ways.	Cat. No.	Price per gross.			Price per dozen.		
		£	s.	d.	£	s.	d.
1	<b>C 7040</b>		<b>12</b>	<b>8</b>		<b>1</b>	<b>4</b>
2	<b>C 7041</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>0</b>	
3	<b>C 7042</b>	<b>1</b>	<b>12</b>	<b>0</b>	<b>3</b>	<b>0</b>	

No. of Ways.	Cat. No.	Price per gross.			Price per dozen.		
		£	s.	d.	£	s.	d.
1	<b>C 7045</b>	<b>1</b>	<b>11</b>	<b>4</b>	<b>3</b>	<b>0</b>	
2	<b>C 7046</b>	<b>2</b>	<b>13</b>	<b>4</b>	<b>5</b>	<b>0</b>	
3	<b>C 7047</b>	<b>3</b>	<b>14</b>	<b>0</b>	<b>6</b>	<b>8</b>	

Six dozen lots at gross prices.

## CONDUIT TOOLS

### STOCKS AND DIES

For B.S.S. Gauge, Class B (Electric Thread)

STOCKS (SOLID PATTERN).

Cat. No.	Description.	Stock No.	Price each.
			£ s. d.
C 7050	Stock only (without dies or guides) for $\frac{1}{2}$ -1-in. conduit	0	13 0
C 7051	Ditto, for 1-1 $\frac{1}{2}$ -in. conduit ..	1	1 4 0
C 7052	Ditto, for 1 $\frac{1}{2}$ -2-in. conduit ..	2	2 1 0
C 7053	Ditto, for 2-3-in. conduit ..	3	2 13 0



C 7050/3



C 7061/7100

Size E.T.	DIES.			
	For Stock No. 0.		For Stock No. 1.	
	Cat. No.	Price each.	Cat. No.	Price each.
ins.		s. d.		s. d.
$\frac{1}{2}$	C 7061	5 8	—	—
$\frac{3}{4}$	C 7062	5 8	—	—
$\frac{1}{2}$	C 7063	5 8	—	—
1	C 7065	5 8	C 7075	9 8
1 $\frac{1}{2}$	—	—	C 7076	9 8
1 $\frac{1}{2}$	—	—	C 7077	9 8

Size E.T.	DIES.			
	For Stock No. 2.		For Stock No. 3.	
	Cat. No.	Price each.	Cat. No.	Price each.
ins.		£ s. d.		£ s. d.
1 $\frac{1}{2}$	C 7087	1 1 8	—	—
2	C 7088	1 1 8	C 7098	1 8 0
2 $\frac{1}{2}$	C 7089	1 1 8	C 7099	1 8 0
3	—	—	C 7100	1 8 0

Size E.T.	GUIDES.			
	For Stock No. 0.		For Stock No. 1.	
	Cat. No.	Price each.	Cat. No.	Price each.
ins.		s. d.		s. d.
$\frac{1}{2}$	C 7101	1 8	—	—
$\frac{3}{4}$	C 7102	1 8	—	—
$\frac{1}{2}$	C 7103	1 8	—	—
1	C 7105	1 8	C 7115	3 4
1 $\frac{1}{2}$	—	—	C 7116	3 4
1 $\frac{1}{2}$	—	—	C 7117	3 4



C 7101/7105

Size E.T.	GUIDES.			
	For Stock No. 2.		For Stock No. 3.	
	Cat. No.	Price each.	Cat. No.	Price each.
ins.		s. d.		s. d.
1 $\frac{1}{2}$	C 7127	5 0	—	—
2	C 7128	5 0	C 7138	8 8
2 $\frac{1}{2}$	C 7129	5 0	C 7139	8 8
3	—	—	C 7140	8 8

**S.E.C.**

## CONDUIT TOOLS STOCKS AND DIES

**For B.S.S. Gauge, Class B (Electric Thread)**

### ADJUSTABLE PATTERN



**C 7150**  
Adjustable Stock, etc., in Box.

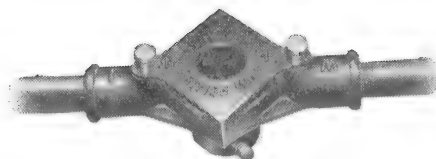
Cat. No.	Description.	Price each.		
		£	s.	d.
<b>C 7150</b>	Adjustable Stock with Dies and Guides for $\frac{1}{8}$ , $\frac{1}{4}$ , 1 and 1 $\frac{1}{2}$ -in. Conduit, complete in wood box	<b>3</b>	<b>18</b>	<b>0</b>
<b>C 7151</b>	Spare Dies, for $\frac{1}{8}$ , $\frac{1}{4}$ , 1 and 1 $\frac{1}{2}$ -in. Conduit ..	<b>10</b>	<b>0</b>	
<b>C 7152</b>	Spare Guides, for $\frac{1}{8}$ , $\frac{1}{4}$ , 1 and 1 $\frac{1}{2}$ -in. Conduit	<b>2</b>	<b>0</b>	

Dies and Guides for Adjustable Stocks can be supplied for  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$  and 1-in. Gas Thread without extra charge.

## STOCKS AND DIES

**For B.S.S. Gauge, Class B (Electric or Gas Thread)**

### STOCKS (WALWORTH PATTERN)



**C 7160/2**

Cat. No.	Description.	Stock No.	Price each.		
			£	s.	d.
<b>C 7160</b>	Stock only (without dies or guides) for $\frac{1}{2}$ – $\frac{3}{4}$ -in. Conduit .. .. .	0	<b>11</b>	<b>0</b>	
<b>C 7161</b>	Ditto, for $\frac{1}{2}$ –1 $\frac{1}{4}$ -in. Conduit .. .. .	1	<b>13</b>	<b>0</b>	
<b>C 7162</b>	Ditto, for 1–2-in. Conduit .. .. .	1 $\frac{1}{2}$	<b>1</b>	<b>0</b>	<b>0</b>

For Dies and Guides see following page.

# CONDUIT TOOLS

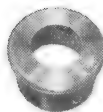
## STOCKS AND DIES

For B.S.S. Gauge, Class B (Electric or Gas Thread)



**DIES.** C 7171/98

Size.		For Stock No. 0.		For Stock No. 1.		For Stock No. 1½.	
E.T.	Gas.	Cat. No.	Price each.	Cat. No.	Price each.	Cat. No.	Price each.
ins.	ins.		s. d.		s. d.		s. d.
½	½	C 7171	6 4	C 7181	7 8	—	—
¾	¾	C 7172	6 4	C 7182	7 8	—	—
1	1	C 7173	6 4	C 7183	7 8	—	—
1 ¼	1 ¼	—	—	C 7185	7 8	C 7195	12 0
1 ½	1 ½	—	—	C 7186	7 8	C 7196	12 0
2	2	—	—	—	—	C 7197	12 0
						C 7198	12 0

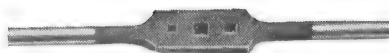


**GUIDES.** C 7201/27

Size.		For Stock No. 0.		For Stock No. 1.		For Stock No. 1½.	
E.T.	Gas.	Cat. No.	Price each.	Cat. No.	Price each.	Cat. No.	Price each.
ins.	ins.		s. d.		s. d.		s. d.
½	½	C 7201	1 0	C 7211	1 4	—	—
¾	¾	C 7202	1 0	C 7212	1 4	—	—
1	1	C 7203	1 0	C 7213	1 4	—	—
1 ¼	1 ¼	—	—	C 7215	1 4	C 7225	1 8
1 ½	1 ½	—	—	C 7216	1 4	C 7226	1 8
2	2	—	—	—	—	C 7227	1 8
						Use Stock for Guide.	

For Stocks see previous page.

## TAP WRENCHES



C 7230/2

Cat. No.	Description.	Length.	Price each.		
			ins.	£	s. d.
C 7230	Solid Tap Wrench for ½, ¾ and 1-in. taps ..	19		11	0
C 7231	Ditto, for 1 and 1 ¼-in. taps .. ..	30		18	0
C 7232	Ditto, for 1 ½, 2 and 2 ½-in. taps .. ..	42		1 19	0
C 7240	Adjustable Tap Wrench for ½, ¾, 1 and 1-in. taps .. ..	30		1 15	0
C 7241	Ditto, for 1, 1 ¼, 1 ½ and 2-in. taps .. ..	47		3 10	0

## CONDUIT TOOLS

### TAPS



C 7251/9 Plug Taps.

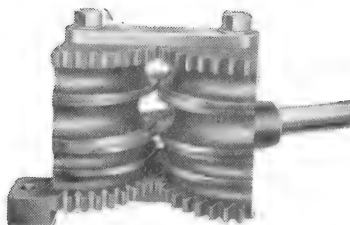


C 7261/9 Taper Taps.

Size.		PLUG TAPS.		TAPER TAPS.	
E.T.	Gas.	Cat. No.	Price each.	Cat. No.	Price each.
Ins.	Ins.		£ s. d.		£ s. d.
$\frac{1}{2}$	$\frac{1}{4}$	C 7251	2 0	C 7261	2 0
$\frac{3}{8}$	$\frac{3}{8}$	C 7252	3 0	C 7262	3 0
$\frac{1}{2}$	$\frac{1}{2}$	C 7253	3 8	C 7263	3 8
1	$\frac{3}{4}$	C 7255	5 4	C 7265	5 4
$1\frac{1}{4}$	1	C 7256	7 0	C 7266	7 0
$1\frac{1}{2}$	$1\frac{1}{4}$	C 7257	11 4	C 7267	11 4
2	$1\frac{1}{2}$	C 7258	18 0	C 7268	18 0
$2\frac{1}{2}$	2	C 7259	1 12 0	C 7269	1 12 0

### BENDERS

#### " WRIGHT " PATTERN



C 7271

The "Wright" Patent Bender is a compact machine for bending conduit tubing up to  $1\frac{1}{4}$  in. outside diameter when secured to a bench ; it enables  $\frac{1}{2}$ ,  $\frac{3}{4}$ , 1, or  $1\frac{1}{4}$  in. tubing to be bent without the use of loose formers. The bender is quick in action and easy to use ; full normal bends can be made in one movement for tubing up to 1 in., and in two movements for  $1\frac{1}{4}$  in. tubing. Bends or sets of any radius can be produced.

Cat. No.	Weight (approx.).	Price each.
	lb.	£ s. d.
C 7271	35	8 18 0



# CONDUIT TOOLS

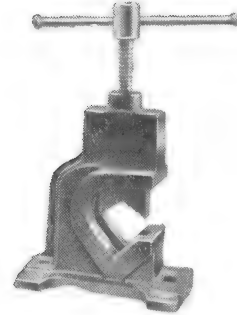
## TUBE VICES AND TUBE CUTTERS



**C 7280**

### LIGHT TUBE VICES.

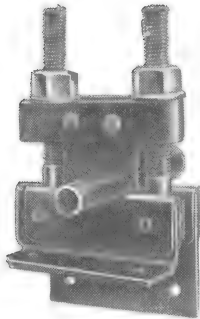
Cat. No.	Description.	Price each.	
		s.	d.
<b>C 7280</b>	Malleable Iron Portable Tube Vice, for $\frac{1}{2}$ -1 $\frac{1}{2}$ -in. conduit ..	<b>15</b>	<b>0</b>



**C 7281/2**

### HEAVY TUBE VICES

Cat. No.	Description.	Price each.		
		£	s.	d.
<b>C 7281</b>	Heavy Pattern Tube Vice, for $\frac{1}{2}$ -1 $\frac{1}{2}$ -in. conduit .. ..	<b>18</b>	<b>0</b>	
<b>C 7282</b>	Ditto, for $\frac{1}{2}$ -3-in. conduit ..	<b>1</b>	<b>8</b>	<b>0</b>



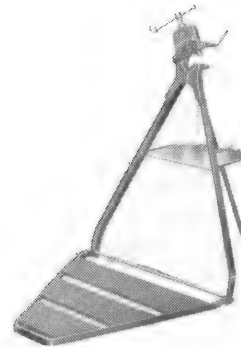
**C 7283/4**

### FOOTPRINT TUBE VICES

Cat. No.	Description.	Price each.		
		£	s.	d.
<b>C 7283</b>	Footprint Tube Vice, for $\frac{1}{2}$ -1 $\frac{1}{2}$ -in. conduit ..	<b>15</b>	<b>8</b>	
<b>C 7284</b>	Ditto, for $\frac{1}{2}$ -3-in. conduit	<b>2</b>	<b>0</b>	<b>0</b>

### PORTABLE TUBE VICES Tripod Pattern

Cat. No.	Description.	Price each.		
		£	s.	d.
<b>C 7290</b>	Portable Vice for tubes up to 2in. (with tray for tools) .. ..	<b>3</b>	<b>7</b>	<b>0</b>



**C 7290**

### TUBE CUTTERS



**C 7295**

Three-wheel Cutter for cutting heavy gauge conduit up to 2in.

Cat. No.	Description.	Price each.	
		s.	d.
<b>C 7295</b>	Three-wheel Cutter for $\frac{1}{2}$ -2-in. conduit ..	<b>19</b>	<b>0</b>

**S.E.C.****CONDUIT TOOLS****PIPE WRENCHES, HACK SAWS, ETC.****STILLSON PATTERN WRENCHES****FOOTPRINT WRENCHES****C 7300/2**

Cat. No.	Description.	Price each.	
		s.	d.
<b>C 7300</b>	8-in. Stillson Wrench $\frac{1}{2}$ -1in.	<b>6</b>	<b>4</b>
<b>C 7301</b>	10-in. do. $\frac{1}{2}$ -1 $\frac{1}{2}$ in.	<b>8</b>	<b>4</b>
<b>C 7302</b>	14-in. do. $\frac{1}{2}$ -2in.	<b>11</b>	<b>4</b>

**C 7303/4**

Cat. No.	Description.	Price each.	
		s.	d.
<b>C 7303</b>	7-in. Footprint Wrench $\frac{1}{2}$ -1 $\frac{1}{2}$ in.	<b>2</b>	<b>4</b>
<b>C 7304</b>	9-in. do. 1-2in.	<b>3</b>	<b>8</b>

**C 7310/21****HACK SAW FRAMES**

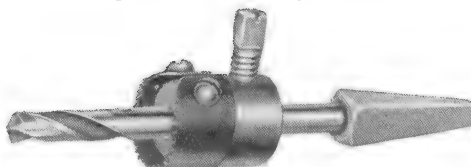
Cat. No.	Description.	Price each.	
		s.	d.
<b>C 7310</b>	Adjustable Hack Saw Frame, to take 7-12-in. blades	<b>7</b>	<b>8</b>

**HACK SAW BLADES**

Cat. No.	Size.	Price per doz.		Cat. No.	Size.	Price per doz.	
		s.	d.			s.	d.
<b>C 7321</b>	7 ins.	<b>2</b>	<b>8</b>	<b>C 7324</b>	10 ins.	<b>3</b>	<b>8</b>
<b>C 7322</b>	8 ins.	<b>3</b>	<b>0</b>	<b>C 7326</b>	11 ins.	<b>4</b>	<b>0</b>
<b>C 7323</b>	9 ins.	<b>3</b>	<b>4</b>	<b>C 7327</b>	12 ins.	<b>4</b>	<b>4</b>

**" ENOX " RING SAWS**

For "GENALEX" pressed steel adaptable junction boxes, etc.

**C 7502/6**

" Genalex " pressed steel adaptable junction boxes are now supplied without knock-outs, and for cutting holes in these and other boxes the saw-hole cutter shown above should be used.

A separate cutter is necessary for each size of hole required.

The saw-cutter is used with an ordinary joiner's brace. New blades can easily be fitted when necessary.

Size of clearance hole cut.	RING SAWS COMPLETE.		SPARE SAWS.	
	Cat. No.	Price each.	Cat. No.	Price per dozen.
ins.		s. d.		s. d.
$\frac{3}{8}$	<b>C 7502</b>	<b>5 6</b>	<b>C 7512</b>	<b>5 6</b>
$\frac{1}{2}$	<b>C 7503</b>	<b>5 6</b>	<b>C 7513</b>	<b>5 6</b>
1	<b>C 7505</b>	<b>5 6</b>	<b>C 7515</b>	<b>5 6</b>
1 $\frac{1}{4}$	<b>C 7506</b>	<b>6 0</b>	<b>C 7516</b>	<b>6 0</b>

## CONDUIT TOOLS

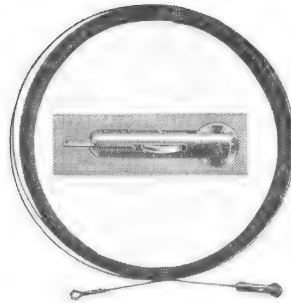
### REAMERS, DRAW-IN TAPES AND WIRES

#### TUBE REAMERS

Cat. No.	Description.	Price each.
		s. d.
<b>C 7330</b>	Solid Steel Reamer for removing rough edges from Conduit Tube, $\frac{1}{2}$ –1 $\frac{1}{4}$ in. .. .. .	<b>10 0</b>



**C 7330** Tube Reamer.



**C 7331** Draw-in Tape.

#### DRAW-IN TAPES AND WIRES

Cat. No.	Description.	Price
		s. d.
<b>C 7331</b>	Draw-in Tape (clock spring type) with patent end having two wheels to ease tape at awkward points .. .. .	<b>5 8</b>
<b>C 7332</b>	Galvanized Steel Draw-in Wire .. .. .	<b>8</b>

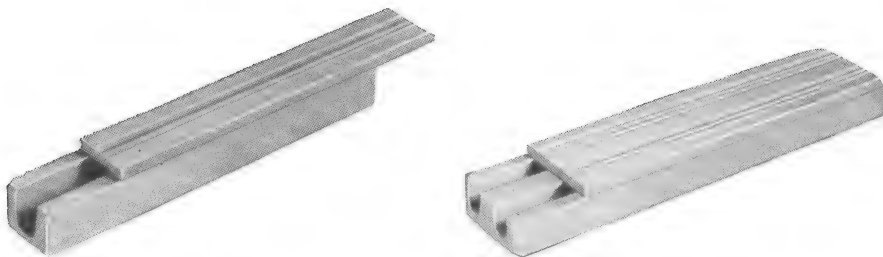
### “SILVERLAC” PAINT, BLACK ENAMEL AND FRENCH CHALK

Cat. No.	Description.	Price
		s. d.
<b>C 7333</b>	“Silverlac” Paint .. .. . per $\frac{1}{2}$ gall. tin.	<b>12 4</b>
<b>C 7334</b>	ditto ditto .. .. . per 1 pint tin.	<b>3 8</b>
<b>C 7335</b>	Quick Drying Black Enamel .. .. . per 1 lb. tin.	<b>2 8</b>
<b>C 7336</b>	French Chalk (for easing wire through Conduit) .. .. . per 1 lb. tin. ..	<b>1 4</b>

**S.E.C.**

## CONDUIT ACCESSORIES

### WOOD CASING AND CAPPING



All casing and capping is of prime American Tupelo Whitewood of best quality, with clean finish and free from knots and defects.

#### SINGLE GROOVE

Cat. No.	Approximate width.	Size of Groove.	Price.*					
			Per 100 ft.			Per 1000 ft.		
	ins.	ins.	£	s.	d.	£	s.	d.
C 7341	1	$\frac{5}{16}$	11	4		5	11	0
C 7342	$1\frac{1}{8}$	$\frac{1}{2}$	14	8		7	13	8
C 7343	$1\frac{1}{2}$	$\frac{5}{8}$	1	2	8	11	10	0
C 7344	2	$\frac{7}{8}$	1	15	8	17	9	0

#### DOUBLE GROOVE

Cat. No.	Approximate width.	Size of Grooves.	Distance between Grooves.	Price.*					
				Per 100 ft.			Per 1000 ft.		
	ins.	ins.	ins.	£	s.	d.	£	s.	d.
C 7350	$1\frac{1}{8}$	$\frac{3}{16}$	$\frac{3}{8}$	10	8		4	17	0
C 7351	$1\frac{1}{4}$	$\frac{1}{4}$	$\frac{3}{8}$	11	4		4	19	8
C 7352	$1\frac{1}{2}$	$\frac{1}{4}$	$\frac{3}{8}$	12	0		5	2	4
C 7353	$1\frac{3}{4}$	$\frac{1}{4}$	$\frac{3}{8}$	14	0		5	18	4
C 7355	2	$\frac{3}{8}$	$\frac{1}{2}$	18	4		8	3	8
C 7357	$2\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{8}$	1	2	8	9	11	4
C 7358	3	$\frac{3}{4}$	$\frac{7}{8}$	1	10	4	13	14	0
C 7359	4	$\frac{7}{8}$	$1\frac{1}{8}$	2	11	8	23	15	8

\* Orders of 500 ft. and upwards executed at 1000 ft. rate.

NOTE.—Casing and Capping in hard woods or deal and in special sizes and patterns can be supplied. Prices on application.

#### ZINC BELL TUBING

Cat. No.	Size.	Gauge (Zinc).	Weight per 1000 ft.	Price.					
				Per 100 ft.			Per 1000 ft.		
	ins.		cwt. qrs. lb.	s.	d.		£	s.	d.
C 7360	$\frac{1}{2}$	10	0 1 24	7	4		3	6	8
C 7361	$\frac{3}{8}$	11	0 2 21	8	0		3	15	8
C 7362	$\frac{1}{4}$	12	1 0 0	14	0		6	9	0

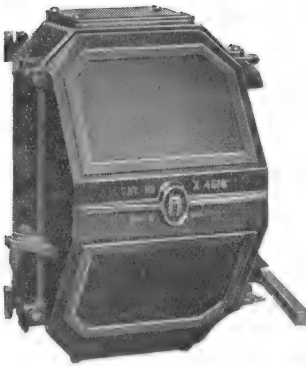
# IRONCLAD SWITCHES

## WITH FUSES

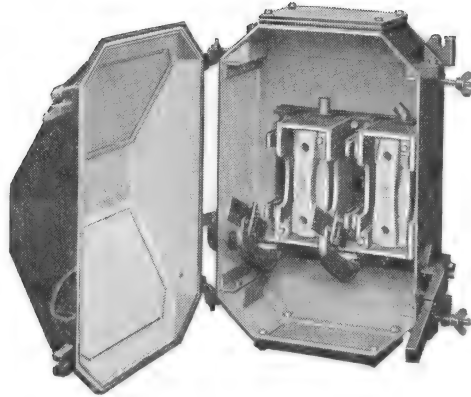
**200 Amps.      500 Volts.**

### QUICK BREAK

Complying with Home Office Factory Regulations.



**X 4516** Exterior.



**X 4516** With cover open.

**Construction.** The weatherproof case is constructed of cast-iron and steel plate, the weight being reduced by steel plate inserts into the cast-iron frame of the lid. The switch blades and the fuses are mounted side by side, giving considerable saving in height over the normal vertical arrangement, which is important where space is limited and in the construction of unit type switchboards.

**Connections.** The switch contacts may be connected to the fuses in various ways according to the position of mains entries ; details are given on the following page. In all methods of connecting the blades are "dead" when the switch is in the "off" position.

Complete access to the terminals for wiring and changing the connections is given by first removing the insulating fuse barriers, which are secured by milled nuts, and then undoing the gland nut on the left side of the case, thus allowing the complete switch blade assembly to be removed.

**Cable entries.** The end plates of the case are detachable and are stocked undrilled. Suitable cable boxes, glands, etc., can be fitted if required, prices on application.

Capacity		Cat. No.	Description	Weight (appx.)	Price each		
Amps.	Volts.			Lb.	£	s.	d.
200	500	X <b>4516</b>	Double pole .. .. .	132	8	18	0
		X <b>4536</b>	Triple pole .. .. .	179	13	0	0
		X <b>4536L</b>	Triple pole with multiple-circuit detachable neutral link ..	182	13	15	0

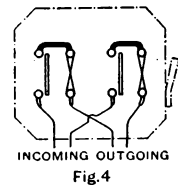
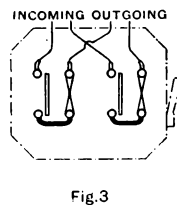
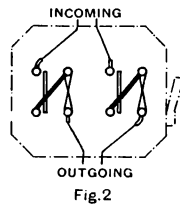
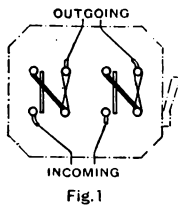
Spare fuse carriers, 12s. 8d. each.

*For various methods of connecting and for dimensions see next page*

## **IRONCLAD SWITCHES WITH FUSES**

**200 Amps. 500 Volts.**

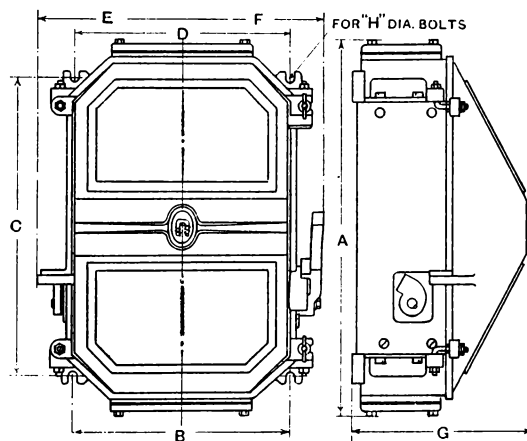
The ironclad switches with fuses described in the previous page, Cat. Nos. X4516, X4536 and X4536L, have detachable copper straps provided for connecting the contacts of the switch to the fuses, and are normally supplied with the upper contact of the switch joined to the lower contact of the fuse for use where the mains enter at the bottom and leave at the top of the case, as shown in Fig. 1 below. These connecting straps can easily be reversed so as to make the switch fuse suitable for use where the mains enter at the top and leave at the bottom, as shown in Fig. 2.



In some situations it is desirable for the mains to enter and leave at the same end of the case, and the switch fuse can be easily adapted by removing the connecting straps and inserting U-shaped connectors into either the top or bottom terminals according to the position of the mains, as shown in Figs. 3 and 4.

**EXTRA PRICE** for U-shaped connectors (two per double pole switch, three per triple pole switch), 2/4 each.

### **DIMENSIONS.**



Cat. No.	A	B	C	D	E	F	G	H
X <b>4516</b>	Ins. 26½	Ins. 15½	Ins. 21	Ins. 15½	Ins. 10 ⅞	Ins. 10 ⅞	Ins. 13½	Ins. ½
X <b>4536</b>	26½	24½	21	24½	14 ⅞	14½	13½	½
X <b>4536L</b>	26½	24½	21	24½	14 ⅞	14½	13½	½

*NOTE :—Although every care has been taken in compiling the above dimensions no responsibility can be entertained for inaccuracies or consequential damages.*

**"D.B." IRONCLAD SWITCHGEAR****SPECIFICATION**

The following specification applies in general to the whole range of "D.B." ironclad switchgear shown in this catalogue, but where slight variations occur or additional features are included, these are given in the supplementary remarks given on each page.

All G.E.C. switchgear in this catalogue complies fully with Home Office Factory Regulations, I.E.E. Regulations, and also with B.S.S. No. 124 and B.S.S. No. 88 as regards carrying capacity and rupturing capacity.

**Case.** Best quality cast iron. In most cases can be rendered weatherproof by inserting a gasket in groove in lid. Standard finish: black enamel. Switches with fuses can be supplied in SILVERLAC, on request, in sizes up to 30 amps. Weather-proof switches can also be supplied if desired—prices on application.

**Action.** Positive quick make and quick break. There are two breaks on each pole, and the action is synchronous. The non-corrosive actuating spring is in compression only during operation.

**Interlock.** The cover of the case is interlocked with the switch so that normally the case cannot be opened with the switch closed, or the switch closed with the case open. In the 30 to 150 amp. sizes on pages 320 to 326, the handles are so arranged that by removing the securing screw or pin a competent and authorized person is enabled to operate the switch when the case is open and examine its working (B.S.S. No. 124, Clause 55).

**Switch blades and contacts.** The blades are of hard-drawn h.c. copper firmly secured to a square section steel coupling bar, insulated the full length by Bakelite, *moulded on*. Fixed contacts are of hard-drawn h.c. copper.

**Fuses.** Totally enclosed Home Office pattern; fuse carriers of 60 amperes and upward are fitted with self-aligning solid brass blocks.

**Terminals.** Substantial brass blocks with cheese-headed clamping screws.

**Cable inlets.** Excepting the two smallest sizes and triple pole and neutral patterns, all switches and switch fuses are drilled one hole top and bottom for conduit; they can also be supplied undrilled.

Cable boxes and glands can be fitted to all sizes from 20 amps. upwards. See pages 350 to 353.

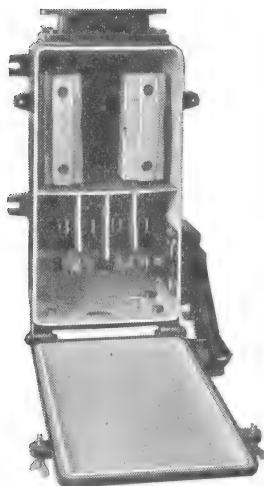
**G.E.C. "D.B." switchgear is eminently suitable for building up switchboards on iron framework with busbar chamber, etc.**

**S.E.C.**

# **"D.B." IRONCLAD SWITCHES** **WITH FUSES**

**QUICK MAKE AND QUICK BREAK**

**150 Amps. 500 Volts.**



**X 4415**

**Case.** Silicate lined, weatherproof.

**Contacts.** Switch : fixed contacts mounted on steel supports insulated by Bakelite.  
 Switch and fuse : contacts fitted with reinforcing clips.

**Terminals.** Sweating sockets are provided for incoming and outgoing cables.

**Cable inlets.** End plates are detachable. Standard drilling 2in. E.T. for D.P. and T.P. Triple pole and neutral cases undrilled.

Capacity	Double pole					
	Cat. No.	Weight (approx.)		Price each		
Amps. 150	<b>X 4415</b>	Lb. 80	Kilos. 36.28	£ <b>7</b>	s. <b>5</b>	d. <b>4</b>

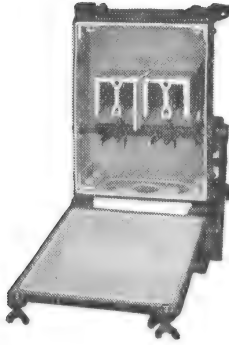
Capacity	Triple pole				Triple pole with neutral connector			
	Cat. No.	Weight (approx.)		Price each	Cat. No.	Weight (approx.)		Price each
Amps. 150	<b>X 4435</b>	Lb. 100	Kilos. 45.3	£ <b>9</b> s. <b>19</b> d. <b>4</b>	<b>X 4435L</b>	Lb. 100	Kilos. 45.3	£ <b>11</b> s. <b>3</b> d. <b>4</b>

Spare fuse carriers, **10s. 8d.** each.

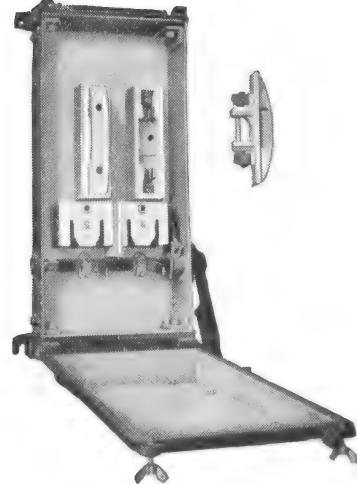
*For attachments and accessories see pages 350 to 353. For dimensions see page 367.*



## "D.B." IRONCLAD SWITCHES AND SWITCHES WITH FUSES QUICK MAKE AND QUICK BREAK 100 Amps. 500 Volts.



X 4505



X 4515

**Case.** Built up of cast-iron and steelplate, weatherproof.

**Switch blades.** Switch blade assembly can be easily removed to facilitate wiring.

**Contacts.** Switch and fuse contacts are fitted with reinforcing clips.

**End plates.** Detachable. Standard drilling 2in. E.T. for D.P. and T.P. Triple pole and neutral cases undrilled.

### SWITCH ONLY.

Capacity	Double pole						Triple pole					
	Cat. No.	Weight (approx.)		Price each			Cat. No.	Weight (approx.)		Price each		
Amps.		Lb.	Kilos.	£	s.	d.		Lb.	Kilos.	£	s.	d.
100	X 4505	43½	19.6	2	7	4	X 4525	53½	24.4	3	5	0

### SWITCH WITH FUSES.

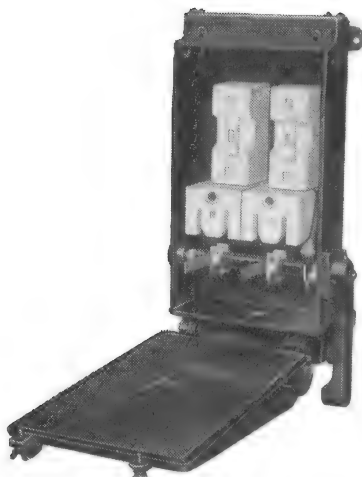
Capacity	Double pole						Triple pole					
	Cat. No.	Weight (approx.)		Price each			Cat. No.	Weight (approx.)		Price each		
Amps.		Lb.	Kilos.	£	s.	d.		Lb.	Kilos.	£	s.	d.
100	X <b>4515</b>	55½	25.3	<b>3</b>	<b>19</b>	<b>0</b>	X <b>4535</b>	72½	32.9	<b>5</b>	<b>0</b>	<b>8</b>

Triple pole with neutral connector				
Capacity	Cat. No.	Weight (approx.)		Price each
Amps.		Lb.	Kilos.	£ s. d.
100	X 4535L	73	33.1	5 17 0

Spare fuse carriers, 4s. 2d. each.

For attachments and accessories see pages 350 to 353.

For dimensions see pages 366 and 367.

**S.E.C.****IRONCLAD SWITCHES****WITH FUSES****QUICK MAKE AND QUICK BREAK****100 Amps. 500 Volts.****X4513****Case.** Can be rendered weatherproof at slight extra charge.**Cable inlets.** Standard drilling 2in. clear for D.P. and T.P. Triple pole and neutral cases undrilled.**Double pole.**

Capacity	Cat. No.	Overall Dimensions			Weight (approx.)		Price each		
Amps.		Height ins.	Width ins.	Projection ins.	Lb.	Kilos.	£	s.	d.
100	X <b>4513</b>	19 $\frac{3}{4}$	13	6 $\frac{3}{4}$	48	21.77	<b>2</b>	<b>15</b>	<b>4</b>

**Triple pole.**

Capacity	Cat. No.	Overall Dimensions			Weight (approx.)		Price each		
Amps.		Height ins.	Width ins.	Projection ins.	Lb.	Kilos.	£	s.	d.
100	X <b>4533</b>	19 $\frac{3}{4}$	17 $\frac{3}{4}$	6 $\frac{3}{4}$	60	27.22	<b>3</b>	<b>16</b>	<b>8</b>

**Triple pole with neutral connector.**

Capacity	Cat. No.	Overall Dimensions			Weight (approx.)		Price each		
Amps.		Height ins.	Width ins.	Projection ins.	Lb.	Kilos.	£	s.	d.
100	X <b>4533L</b>	19 $\frac{3}{4}$	17 $\frac{3}{4}$	6 $\frac{3}{4}$	61	27.67	<b>4</b>	<b>8</b>	<b>0</b>

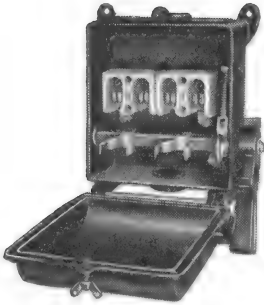
Spare fuse carriers, **3s. 0d.** each.*For attachments and accessories see pages 350 to 353.**For dimensions see page 367*

**S.E.C.**

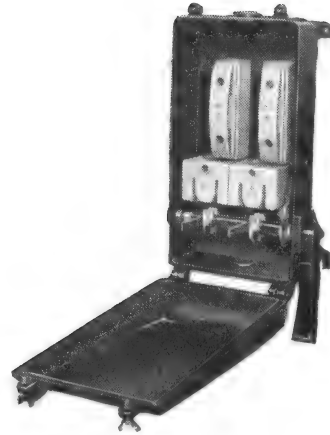
# "D.B. MAJOR" IRONCLAD SWITCHES AND SWITCHES WITH FUSES

**QUICK MAKE AND QUICK BREAK**

**60 Amps. 500 Volts.**



**X 4402**



**X 4512**

**Case.** Can be rendered weatherproof at slight extra charge.

**Switch blades.** Switch blade assembly in switches with fuses can be easily removed to facilitate wiring.

**Cable inlets.** Standard drilling 1½ in. E.T. for D.P. and T.P. Triple pole and neutral cases undrilled.

## SWITCH ONLY.

Capacity.	Double pole				Triple pole				
	Cat. No.	Weight (approx.)		Price each	Cat. No.	Weight (approx.)		Price each	
Amps.		Lb.	Kilos.	£ s. d.		Lb.	Kilos.	£ s. d.	
60	X 4402	11	5	17 4	X 4422	14	6.35	1 5 0	

## SWITCH WITH FUSES.

Capacity	Double pole				Triple pole				
	Cat. No.	Weight (approx.)		Price each	Cat. No.	Weight (approx.)		Price each	
Amps.		Lb.	Kilos.	£ s. d.		Lb.	Kilos.	£ s. d.	
60	X 4512	34½	15.65	1 16 0	X 4532	42½	19.25	2 14 4	

Triple pole with neutral connector									
Capacity	Cat. No.		Weight (approx.)			Price each			
Amps.			Lb.	Kilos.		£	s.	d.	
60	X 4532 L		43	19.5		2	18	0	

Spare fuse carriers, **2s. 4d.** each.

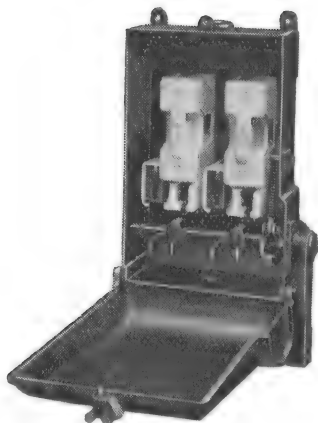
*For attachments and accessories see pages 350 to 353. For dimensions see pages 366 and 367*

# E.E.C.

## IRONCLAD SWITCHES WITH FUSES

**QUICK MAKE AND QUICK BREAK**

**60 Amps. 500 Volts.**



**X 4514**

**Cable Inlets.** Standard drilling, 1½ in. E.T. Triple pole and neutral cases undrilled.

### Double pole.

Capacity	Cat. No.	Overall Dimensions			Weight (appx.)		Price each		
		Height	Width	Projection					
Amps. 60	<b>X 4514</b>	Ins. 14 <sup>3</sup> / <sub>16</sub>	Ins. 10 <sup>1</sup> / <sub>16</sub>	Ins. 5 <sup>1</sup> / <sub>16</sub>	Lb. 27 <sup>1</sup> / <sub>2</sub>	Kilos. 12.46	£	s.	d.
							<b>1</b>	<b>7</b>	<b>4</b>

### Triple pole.

Capacity	Cat. No.	Overall Dimensions			Weight (appx.)		Price each		
		Height	Width	Projection					
Amps. 60	<b>X 4534</b>	Ins. 14 <sup>3</sup> / <sub>16</sub>	Ins. 14	Ins. 5 <sup>1</sup> / <sub>16</sub>	Lb. 38	Kilos. 17.24	£	s.	d.
							<b>1</b>	<b>19</b>	<b>0</b>

### Triple pole with neutral connector.

Capacity	Cat. No.	Overall Dimensions			Weight (appx.)		Price each		
		Height	Width	Projection					
Amps. 60	<b>X 4534L</b>	Ins. 14 <sup>3</sup> / <sub>16</sub>	Ins. 14	Ins. 5 <sup>1</sup> / <sub>16</sub>	Lb. 38 <sup>1</sup> / <sub>2</sub>	Kilos. 17.46	£	s.	d.
							<b>2</b>	<b>2</b>	<b>8</b>

Spare Fuse Carriers, 1s. 8d. each.

*For attachments and accessories see pages 350 to 353.*

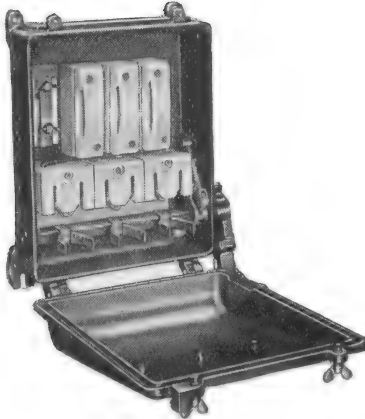
*For dimensions see page 367.*

# **"D.B." SENIOR IRONCLAD SWITCHES WITH FUSES**

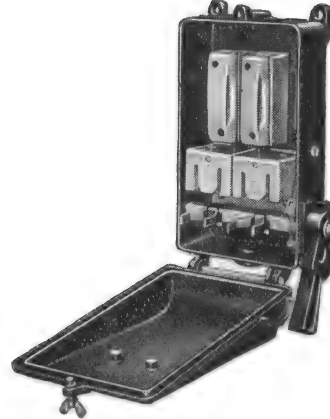
**QUICK MAKE AND QUICK BREAK**

**30 Amps. 500 Volts.**

**50 Amps. 250 Volts.**



**X 6087L.**



**X 6085**

**Case.** Can be rendered weatherproof at slight extra charge.

**Cable inlets.** Standard drilling, 1½ in. E.T. for D.P. and T.P. Triple pole and neutral cases undrilled.

## **Double pole.**

Capacity		Cat. No.	Overall dimensions (approx.)			Weight (approx.)		Price each		
			Height	Width	Depth					
Amps.	Volts.		Ins.	Ins.	Ins.	Lb.	Kilos.	£	s.	d.
30	500	X 6085	12½	7½	4½	15½	7.2	1	0	0
50	250									

## **Triple pole.**

Capacity		Cat. No.	Overall dimensions (approx.)			Weight (approx.)		Price each		
			Height	Width	Depth					
Amps.	Volts.		Ins.	Ins.	Ins.	Lb.	Kilos.	£	s.	d.
30	500	X 6087	13½	10	4½	23	10.43	1	9	0
50	250									

## **Triple pole with neutral connector.**

Capacity		Cat. No.	Overall dimensions (approx.)			Weight (approx.)		Price each		
			Height	Width	Depth					
Amps.	Volts.		Ins.	Ins.	Ins.	Lb.	Kilos.	£	s.	d.
30	500	X 6087L	13½	10	4½	23	10.43	1	14	0
50	250									

**Ammeter.**—A pedestal pattern ammeter with adaptor can be fitted, price on application.

Spare fuse carriers, 1s. 4d. each.

*For attachments and accessories see pages 350 to 353. For dimensions see page 367.*

*For 30 amp. Splitter Switch Fuses see page 333.*

# S.E.C.

## "D.B." MAGNET IRONCLAD SWITCHES AND SWITCHES WITH FUSES QUICK MAKE AND QUICK BREAK 30 Amps. 500 Volts.



**X 6067L**

**X 6071**

**X 6065**

**Cable inlets.** Standard drilling: switch 1in. E.T.; switch fuse, 1in. clear for D.P. and T.P. Triple pole and neutral cases undrilled.

### SWITCH ONLY.

Capacity	Double pole				Triple pole			
	Cat. No.	Weight (approx.)		Price each	Cat. No.	Weight (approx.)		Price each
Amps. 30	<b>X 6071</b>	Lb. 7	Kilos. 3.18	s. d. <b>9 2</b>	<b>X 6073</b>	Lb. 9½	Kilos. 4.3	s. d. <b>12 4</b>

### SWITCH WITH FUSES.

Capacity	Double pole				Triple pole			
	Cat. No.	Weight (approx.)		Price each	Cat. No.	Weight (approx.)		Price each
Amps. 30	<b>X 6065</b>	Lb. 8½	Kilos. 4	s. d. <b>11 0</b>	<b>X 6067</b>	Lb. 11½	Kilos. 5.12	s. d. <b>15 0</b>

Triple pole with neutral connector					
Capacity	Cat. No.		Weight (approx.)		Price each
Amps. 30	<b>X 6067L</b>		Lb. 12	Kilos. 5.44	s. d. <b>19 0</b>

Spare fuse carriers, **1s. 4d.** each

For attachments and accessories see pages 350 to 353.

For dimensions see pages 366 and 367.

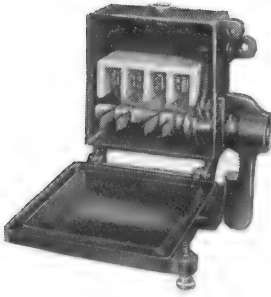
For 30 amp. Splitter Switch Fuses see page 333.

**S.E.C.**

# "D.B. JUNIOR" IRONCLAD SWITCHES AND SWITCHES WITH FUSES

**QUICK MAKE AND QUICK BREAK**

**20 Amps. 250 Volts. 15 Amps. 500 Volts.**

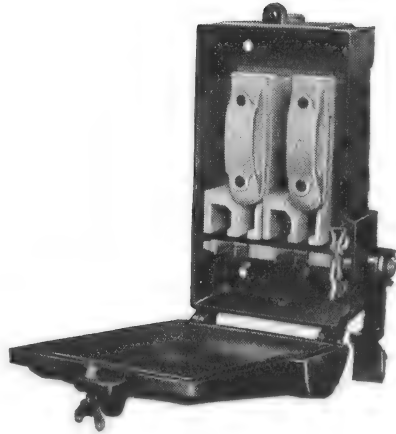


**X 6491**

**Case.** Can be rendered weatherproof.  
Fixing holes in switch with fuses are placed internally.

**Bases.** Each pole of switch and fuse on single porcelain base.

**Cable inlets.** Standard drilling  $\frac{3}{4}$  in. E.T.



**X 3011**

## SWITCH ONLY.

Capacity		Cat. No.	Type.	Overall dimensions (approx.)			Weight (approx.)		Price each
				Height	Width	Depth			
Amps.	Volts.	} X 6491	<b>Double pole</b>	Ins.	Ins.	Ins.	Lb.	Kilos.	s. d.
20	250			4 $\frac{3}{4}$	5 $\frac{7}{8}$	3	3	1.35	<b>5 8</b>
15	500	} X 6493	<b>Triple pole</b>	4 $\frac{3}{4}$	6 $\frac{7}{8}$	3	4 $\frac{1}{4}$	1.92	<b>8 2</b>
20	250								
15	500								

## SWITCH WITH FUSES.

Capacity		Cat. No.	Type.	Overall dimensions (approx.)			Weight (approx.)		Price each
				Height	Width	Depth			
Amps.	Volts.	} X 3011	<b>Double pole</b>	Ins.	Ins.	Ins.	Lb.	Kilos.	s. d.
20	250			10 $\frac{1}{2}$	6 $\frac{3}{8}$	3 $\frac{1}{2}$	7 $\frac{3}{4}$	3.52	<b>9 8</b>
15	500	} X 3013	<b>Triple pole</b>	10 $\frac{1}{2}$	8 $\frac{1}{8}$	3 $\frac{1}{2}$	10	4.54	<b>14 0</b>
20	250								
15	500								

Spare fuse carriers, **1s. 0d.** each.

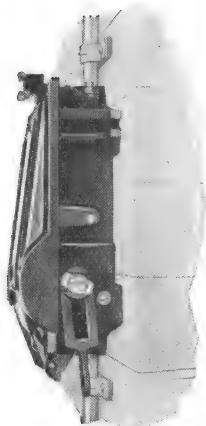
*For complete dimensions of switches with fuses see page 367.*



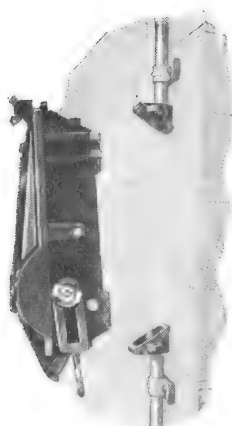
## “V.M.” IRONCLAD SWITCHES WITH FUSES

**QUICK MAKE AND QUICK BREAK**

**20 Amps.    250 Volts.            15 Amps.    500 Volts.**



**X 3011 “VM”**



**X 3011 “VM”  
(Exploded View)**

**These** switches have been specially produced for use under severe conditions and where the time taken in replacing a damaged switch is of extreme importance, causing heavy loss through the shutting down of the plant for this purpose.

**The** main case is wedge shaped, with suitable conduit adaptors attached by two screws. By undoing these and releasing the cables from the terminals, the switch can be removed and a new one substituted in a few minutes without disturbing the conduits.

**The** internal construction of the switch fuse is identical with those described on the previous page.

Standard drilling  $\frac{3}{4}$  in. E.T.

Double pole								
Capacity		Cat. No.	Overall Dimensions			Weight (approx)		Price each
			Height	Width	Project'n			
Amps.	Volts.	} X <b>3011</b> "VM"	Ins.	Ins.	Ins.	Lb.	Kilos.	s. d.
20	250		10½	6¾	3½	8½	3.79	<b>13 0</b>
15	500							
Triple pole								
20	250	} X <b>3013</b> "VM"	10½	8½	3½	11½	5.21	<b>18 8</b>
15	500							

Spare fuse carriers, **1s. Od. each.**



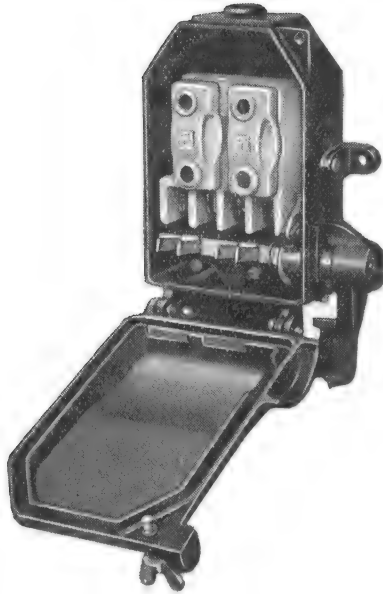
**S&C**

# "D.B. MINOR" IRONCLAD SWITCHES WITH FUSES

**QUICK MAKE AND QUICK BREAK.**

**DOUBLE AND TRIPLE POLE.**

**15 Amps. 250 Volts. 10 Amps. 500 Volts.**



**X 3020**

**Case.** Can be rendered weatherproof.

**Cable inlets.** Standard drilling,  $\frac{3}{4}$  in. E.T. Front of case below cover can be removed to facilitate wiring.

Capacity		Cat. No.	Type	Overall dimensions (approx.)			Weight (approx )		Price each	
				Height	Width	Depth				
Amps.	Volts.	} X3020	<b>Double pole</b>	Ins.	Ins.	Ins.	Lb.	Kilos.	s.	d.
15	250			7 $\frac{1}{4}$	5 $\frac{3}{8}$	3 $\frac{1}{8}$	5	2.27	<b>7</b>	<b>4</b>
10	500									
15	250									
10	500	} X3022	<b>Triple pole</b>	7 $\frac{1}{4}$	7 $\frac{1}{4}$	3 $\frac{3}{8}$	7	3.18	<b>12</b>	<b>8</b>

**Double pole switch with fuses, for key operation, Cat. No. Y 3020A,**  
price 11s. 0d. each\*.

Keys only, price 1s. 0d. each.

Spare fuse carriers, 8d. each.

\* For locked switch fuse for Neon signs see page 341.

# S.E.C.

## "DEE BEE" IRONCLAD SWITCHES WITH FUSES

**QUICK MAKE & QUICK BREAK.**

**15 Amps. 250 Volts.**

**DOUBLE POLE.**



**X 3021**

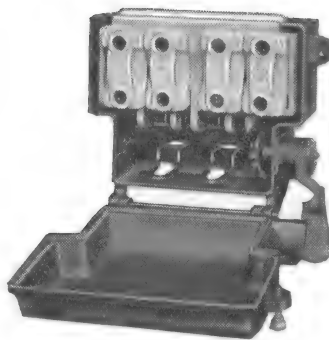
## "DEE BEE" SPLITTER IRONCLAD SWITCHES WITH TWO-WAY

**D.P. FUSES**

**QUICK MAKE & QUICK BREAK.**

**15 Amps. 250 Volts.**

**DOUBLE POLE.**



**X 3024**

**Cable entries.** Through slots in the bottom of the case, and direct entry through porcelain at the top.

### "DEE BEE" SWITCHES WITH FUSES.

Capacity		Cat. No.	Overall dimensions (approx.)			Weight (approx.)		Price each	
			Height	Width	Depth				
Amps. 15	Volts. 250	X 3021	Ins. 5¼	Ins. 5¼	Ins. 2¾	Lb. 3¾	Kilos. 1.52	s. 5	d. 0

### "DEE BEE" SPLITTER SWITCHES WITH FUSES.

Capacity		Cat. No.	Overall dimensions (approx.)			Weight (approx.)		Price each	
			Height	Width	Depth				
Amps. 15	Volts. 250	X 3024	Ins. 6½	Ins. 6½	Ins. 3¼	Lb. 5¼	Kilos. 2.38	s. 8	d. 0

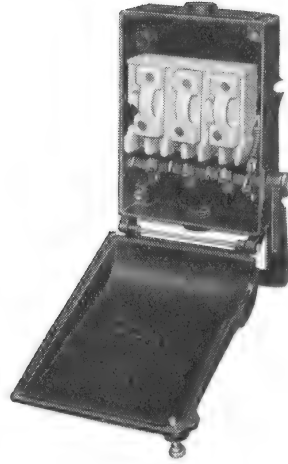
**Conduit boxes** can be supplied for the splitter switch, Cat. No. X3024, to fit on to the top of the case, which is drilled to take them :—

Conduit box for one ¾in. conduit with screws, **1s. 0d.** each.

Conduit box for two ¾in. conduits with screws, **1s. 2d.** each.

Spare fuse carriers, **8d.** each.

*For other 15 amp. Splitter Switch Fuses see page 332.*

**S.E.C.****IRONCLAD SWITCHES WITH FUSES****QUICK MAKE AND QUICK BREAK.****DOUBLE POLE.****12-15 Amps. 250 Volts.****For housing schemes, etc.****TRIPLE POLE.****10 Amps. 500 Volts.****For small three-phase motors.****X 3023****X 3025****Switch.** Small, neat, and efficient, with positive quick make and quick break action.**Cable inlets.** X 3023 Double pole : ends of case slotted opposite terminals. X 3027 Double pole and X 3025 Triple pole : cases extended to allow of easy wiring for conduit ; tapped  $\frac{3}{4}$  in. E.T.**Double pole.**

Capacity		Cat. No.	Overall dimensions (approx.)			Weight (approx.)		Price each	
			Height	Width	Depth				
Amps.	Volts.		Ins.	Ins.	Ins.	Lb.	Kilos.	s.	d.
12-15	250	X <b>3023</b>	4 $\frac{1}{2}$	4 $\frac{1}{8}$	2 $\frac{3}{8}$	2	0.91	<b>4</b>	<b>0</b>
12-15	250	X <b>3027</b>	6 $\frac{1}{2}$	5 $\frac{1}{4}$	3	3 $\frac{1}{2}$	1.47	<b>5</b>	<b>0</b>

**Triple pole.**

Capacity		Cat. No.	Overall dimensions (approx.)			Weight (approx.)		Price each	
			Height	Width	Depth				
Amps	Volts.		Ins.	Ins.	Ins.	Lb.	Kilos.	s.	d.
10	500	X <b>3025</b>	6 $\frac{1}{2}$	5 $\frac{1}{4}$	3	3 $\frac{3}{4}$	1.7	<b>6</b>	<b>0</b>

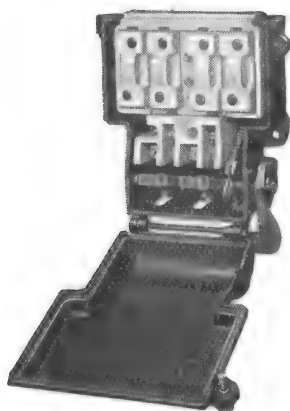
Spare fuse carriers, **6d.** each.

**S.E.C.**

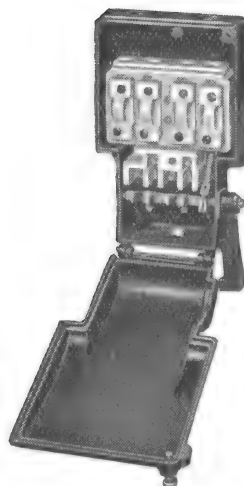
# DOUBLE POLE IRONCLAD SPLITTER SWITCH FUSES

**QUICK MAKE AND QUICK BREAK.**

**15 Amps. 250 Volts.**



**X 3026**



**X 3026C**

The switch and fuse interior is of similar construction to those shown on the previous page.

The cable entries on the X 3026 are through slots in the bottom of the case and direct entry through porcelain at the top.

The case of the X 3026C is drilled one hole  $\frac{3}{4}$  in. E.T. at bottom and two holes  $\frac{3}{4}$  in. E.T. at top.

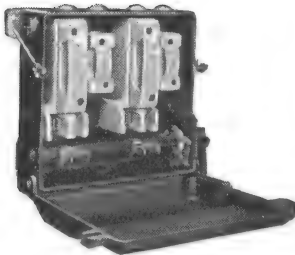
Switch	Fuses per pole		Cat. No.	Approximate dimensions			Weight (approx.)		Price each	
				Height	Width	Projection				
Amps.	No.	Amps.		Ins.	Ins.	Ins.	Lb.Oz.	Kilos.	s.	d.
15	2	12-15	X <b>3026</b>	5 $\frac{1}{8}$	5 $\frac{5}{16}$	2 $\frac{1}{2}$	3 8 $\frac{1}{2}$	1.6	<b>6</b>	<b>0</b>
15	2	12-15	X <b>3026C</b>	7 $\frac{1}{2}$	5 $\frac{5}{16}$	2 $\frac{1}{2}$	4 13	2.18	<b>7</b>	<b>4</b>

Spare fuse carriers **6d.** each.

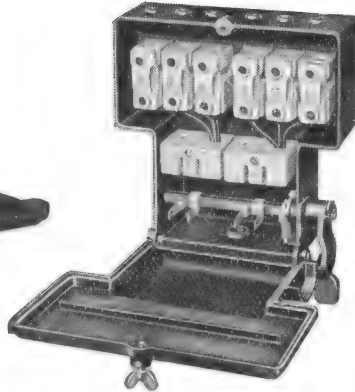
**S.E.C.**

# DOUBLE POLE IRONCLAD SPLITTER SWITCH FUSES

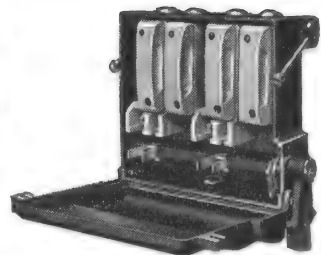
**QUICK MAKE AND QUICK BREAK**  
**30 Amps.**



X 6062



X 6066



X 6063

The switch movement and interior of the X 6062/3 is similar to that of X 6065 double pole switch fuse described on page 326.

The cases are drilled 1in. E.T. at bottom and with four bushed clear holes at top.

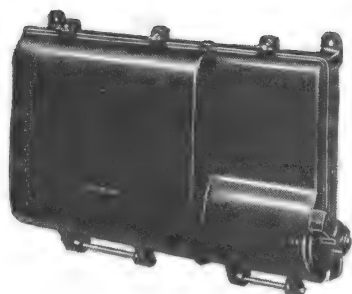
Conduit boxes to affix to the top of the case can be supplied.

The X 6066 switch movement and base are the same as those in the X 6068/9 cooker control switch described on page 339, and Y 2049 fuse units (see page 359) are incorporated. The case is drilled 1in. E.T. at bottom and six bushed holes at top. Can also be supplied with  $\frac{3}{4}$ " E.T. holes at top.

The case of X 6055 is drilled 1—1in. E.T. at bottom and 2— $\frac{3}{4}$ in. E.T. at top.

Switch			Fuses per pole	Cat. No.	Approximate dimensions			Weight (approx.)		Price each
					Height	Width	Projection			
Amps.	No.	Amps.			Ins.	Ins.	Ins.	Lb. Oz.	K'los.	s. d.
30	2	15	}	X 6055	8 $\frac{1}{4}$	6 $\frac{11}{16}$	3 $\frac{3}{8}$	7 8	3.39	15 0
30	1	15		X 6062	8 $\frac{1}{4}$	9 $\frac{1}{8}$	4	12 6	5.65	16 4
30	1	30			8 $\frac{1}{4}$	9 $\frac{1}{8}$	4	13 4 $\frac{1}{2}$	6.02	17 0
30	2	30		X 6063	8 $\frac{1}{4}$	9 $\frac{1}{8}$	4	14 14	6.75	19 4
30	3	15		X 6066	9 $\frac{1}{8}$	9 $\frac{1}{8}$	4 $\frac{1}{8}$			

Conduit boxes for top of X 6062/3 with either one or two 1in. clear holes, 3s. 4d. each. The top of the switch case is drilled to accommodate conduit boxes.

**G.E.C.****IRONCLAD FLAT CONTROL UNITS****X 4687****X 4687 (Open View).**

These units are specially designed for installation in houses and flats. They consist of a 50 amp. double pole main switch with fuses and a distribution board combined. The latter has one 30 amp. way for a cooker and either four, five, six, seven or eight 15 amp. ways for lighting and heating. Interconnections are provided. Two lids are fitted, one over the main switch-fuse, which is interlocked, and one non-interlocked over the distribution section.

The standard drillings are : under main switch one 1in. E.T., over distribution fuses three  $\frac{3}{4}$ in. E.T. and under fuses three  $\frac{3}{4}$ in. E.T. One  $\frac{3}{4}$ in. clear hole is also provided at top of both sides of case.

Main switch-fuse	Number of fuse ways and amps.	Cat. No.	Approximate dimensions			Weight (approx.)		Price each		
			Height	Width	Projection					
Amps.			Ins.	Ins.	Ins.	Lbs.	Kilos.	£	s.	d.
50	1-30 4-15	X <b>4684</b>	13	16 $\frac{1}{2}$	4 $\frac{1}{2}$	34	15.42	<b>2</b>	<b>15</b>	<b>0</b>
50	1-30 5-15	X <b>4685</b>	13	20 $\frac{1}{2}$	4 $\frac{1}{2}$	41	18.59	<b>2</b>	<b>17</b>	<b>0</b>
50	1-30 6-15	X <b>4686</b>	13	20 $\frac{1}{2}$	4 $\frac{1}{2}$	42	19.05	<b>2</b>	<b>18</b>	<b>8</b>
50	1-30 7-15	X <b>4687</b>	13	20 $\frac{1}{2}$	4 $\frac{1}{2}$	43 $\frac{1}{2}$	19.72	<b>3</b>	<b>0</b>	<b>0</b>
50	1-30 8-15	X <b>4688</b>	13	20 $\frac{1}{2}$	4 $\frac{1}{2}$	45	20.42	<b>3</b>	<b>8</b>	<b>0</b>

Fixing Centres : 5 to 8 way Vertical 12 $\frac{1}{2}$ in., horizontal 18in. Bolts  $\frac{1}{2}$ in.

" " 4 way " 12 $\frac{1}{2}$ in., " 14in. "  $\frac{3}{4}$ in.

Spare fuse carriers 50 amp. **1s. 4d.**, 30 amp. **1s. 0d.**, 15 amp. **8d.**

# “SALFORD” IRONCLAD SWITCHES AND SWITCHES WITH FUSES

(Registered No. 572152).

**Cases.** The cases are of fine grained cast iron and are dust and damp proof.

**Break.** The break is long and rapid. The force necessary to operate the blade is transmitted by means of malleable iron castings or steel stampings, which prevent any chance of straining the springs. The springs quicken the break only after the blade has left the jaws.

**Current density.** The current carrying parts are rated at 1,000 amperes per square inch for hard drawn H.C. copper, and the surface contact at 90 amperes per square inch.

**Interlock.** The cover of the cast iron case is interlocked with the switch so that it is impossible to open the case when the switch is closed or to close the switch when the case is open. Any danger of withdrawing the fuses when the circuit is alive is thereby precluded.

**Insulating barriers.** The poles of the switch are separated from each other by means of substantial fireproof insulating barriers, preventing arcing from one pole to the other. Switches of 75 amperes capacity and upwards are provided in addition with arcing shields and barriers, preventing any arc from reaching the case. All switches with fuses are similarly protected, and each fuse is in a separate compartment of insulating material.

**Fuses.** Home Office shielded type, with self aligning solid brass block fuse carrier contacts and hard drawn H.C. copper spring jaws in the base. Up to and including 100 amperes, fuses are of the totally enclosed china unit type, and in the larger sizes the Handguard type.

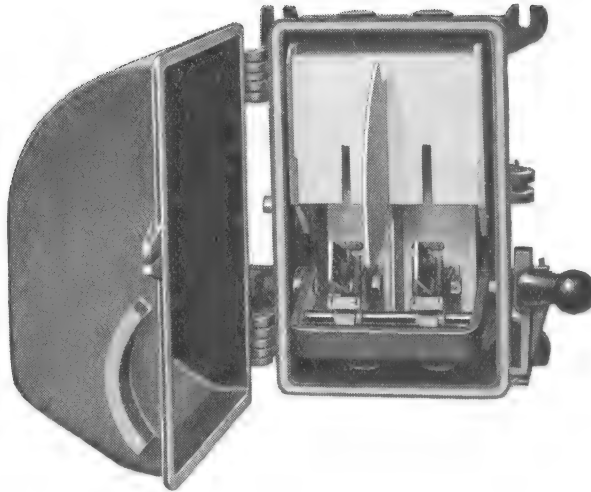
**Terminals.** In sizes up to 200 amperes, all terminals are arranged to clamp the cables without the use of cable sockets, no soldering being necessary. The 300 and 400 ampere sizes are fitted with standard sweating sockets. Front connection terminals only are supplied.

**Home Office Regulations.** SALFORD Switches and switches with fuses comply with Home Office Regulations for the use of electricity in factories, the inlet cables being connected to the top contacts of the switch and the outlet cables connected to the bottom. Thus the switch blades and fuses are dead when the switch is open. All cases are provided with an earthing terminal.

**Cable inlets.** Double pole switches have two holes and triple pole switches three holes top and bottom all fitted with hardwood bushes, which can be drilled to suit the cables used.

50	ampere	switches	are	plain	drilled	1 $\frac{1}{8}$ in.	diameter.
75	"	"	"	"	"	1 $\frac{3}{8}$ in.	"
100	"	"	"	"	"	1 $\frac{3}{8}$ in.	"
150	"	"	"	"	"	1 $\frac{7}{8}$ in.	"
200	"	"	"	"	"	1 $\frac{7}{8}$ in.	"
300	"	"	"	"	"	1 $\frac{1}{2}$ in.	"
400	"	"	"	"	"	2 $\frac{3}{16}$ in.	"

If desired cable boxes or watertight glands can be provided at an extra charge, see pages 350 to 353.

**S.E.C.****"SALFORD" IRONCLAD SWITCHES****For Circuits up to 600 Volts.****X 6205****Double pole.**

Capacity	Catalogue Number	Weight (approx.)		Price each		
		Lb.	Kilos.	£	s.	d.
Amps.						
50	X <b>6204</b>	18½	8.42	<b>2</b>	<b>9</b>	<b>0</b>
75	X <b>6204A</b>	34	15.47	<b>3</b>	<b>18</b>	<b>0</b>
100	X <b>6205</b>	50½	22.75	<b>5</b>	<b>12</b>	<b>8</b>
150	X <b>6205A</b>	60	27	<b>7</b>	<b>3</b>	<b>0</b>
200	X <b>6206</b>	70	31.8	<b>7</b>	<b>14</b>	<b>4</b>
300	X <b>6372</b>	130	59.1	<b>17</b>	<b>5</b>	<b>0</b>
400	X <b>6368</b>	200	91	<b>31</b>	<b>6</b>	<b>4</b>

**Triple pole.**

Capacity	Catalogue Number	Weight (approx.)		Price each		
		Lb.	Kilos.	£	s.	d.
Amps.						
50	X <b>6224</b>	23½	10.7	<b>3</b>	<b>7</b>	<b>4</b>
75	X <b>6224A</b>	45	20.4	<b>5</b>	<b>16</b>	<b>4</b>
100	X <b>6225</b>	65	29.55	<b>7</b>	<b>5</b>	<b>4</b>
150	X <b>6225A</b>	75	34.15	<b>8</b>	<b>16</b>	<b>0</b>
200	X <b>6226</b>	84	38.1	<b>10</b>	<b>1</b>	<b>8</b>
300	X <b>6374</b>	160	72.8	<b>22</b>	<b>17</b>	<b>8</b>

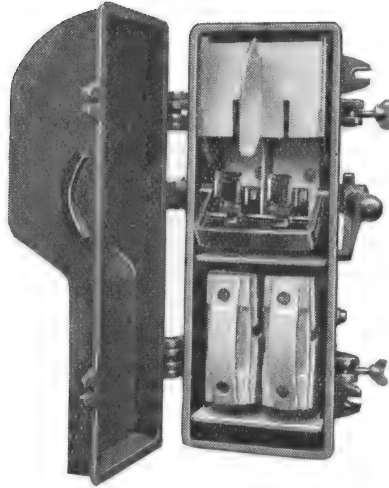
*For dimensions see pages 370 and 371.**For attachments and accessories see pages 350 to 353.*



# "SALFORD" IRONCLAD SWITCHES

## WITH FUSES

For Circuits up to 600 Volts.



**X 6215**

### Double pole.

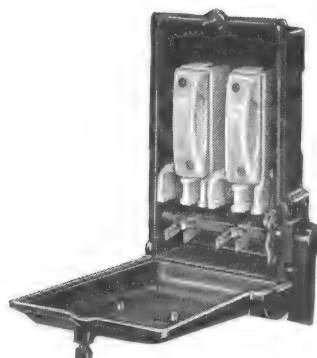
Capacity	Catalogue Number	Weight (approx.)		Price each		
		Lb.	Kilos.	£	s.	d.
Amps.						
50	X <b>6214</b>	39	17.72	<b>4</b>	<b>10</b>	<b>0</b>
75	X <b>6214A</b>	54	24.6	<b>5</b>	<b>19</b>	<b>0</b>
100	X <b>6215</b>	70	31.8	<b>8</b>	<b>9</b>	<b>8</b>
150	X <b>6215A</b>	96	43.65	<b>11</b>	<b>19</b>	<b>8</b>
200	X <b>6216</b>	124	56.75	<b>13</b>	<b>19</b>	<b>8</b>
300	X <b>6373</b>	250	113.9	<b>34</b>	<b>9</b>	<b>8</b>
400	X <b>6385</b>	345	157	<b>49</b>	<b>0</b>	<b>0</b>

### Triple pole.

Capacity	Catalogue Number	Weight (approx.)		Price each		
		Lb.	Kilos.	£	s.	d.
Amps.						
50	X <b>6234</b>	53	24.1	<b>6</b>	<b>12</b>	<b>8</b>
75	X <b>6234A</b>	72	32.72	<b>8</b>	<b>16</b>	<b>0</b>
100	X <b>6235</b>	85	38.6	<b>11</b>	<b>12</b>	<b>4</b>
150	X <b>6235A</b>	130	59.1	<b>15</b>	<b>8</b>	<b>8</b>
200	X <b>6236</b>	172½	78.25	<b>17</b>	<b>17</b>	<b>8</b>
300	X <b>6375</b>	320	145.5	<b>43</b>	<b>11</b>	<b>4</b>

For dimensions see pages 370 and 371.

For attachments and accessories see pages 350 to 353.

**G.E.C.****ALL-INSULATED DOUBLE POLE  
SWITCH-FUSE****AND SPLITTER SWITCH FUSE****QUICK MAKE AND QUICK BREAK****30 Amps. 500 Volts.****SHOCK-PROOF.****X 6064****X 6064 (Open).**

These switch-fuses are particularly suitable for the main control of houses or flats wired on the all-insulated system ; no earth connection is necessary.

They are also especially suitable for use in Chemical Works, Laboratories, etc., where there are corrosive vapours which would attack the ordinary cast-iron case.

They are particularly robust, the switch having been successfully operated, under stringent test conditions, 36,000 times without being impaired.

The ends of the BAKELITE case have three knock-outs for the cable entry. The two outer (opposite the terminals) for single core, and the middle oval one for twin-core cables.

The Splitter combination is similar to the above but has two 15-amp. fuses on each pole.

**SWITCH WITH FUSES.**

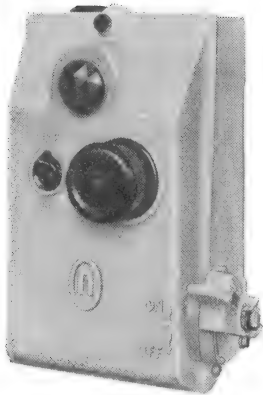
Capacity		Cat. No.	Overall dimensions			Weight (approx.)		Price each	
Amps.	Volts.		Height	Width	Projection	Lb.	Kilos.	s.	d.
30	500	<b>X 6064</b>	Ins. 9 $\frac{1}{2}$	Ins. 6 $\frac{1}{2}$	Ins. 3 $\frac{1}{2}$	4 $\frac{1}{2}$	1.92	<b>16</b>	<b>4</b>
<b>SPLITTER SWITCH FUSE.</b>									
30-amp. switch with two way D.P. 15-amp. fuses .. ..		<b>X 6054</b>	9 $\frac{1}{2}$	6 $\frac{1}{2}$	3 $\frac{1}{2}$	4	1.81	<b>18</b>	<b>6</b>

# **"D.B." COOKER IRONCLAD CONTROL SWITCH**

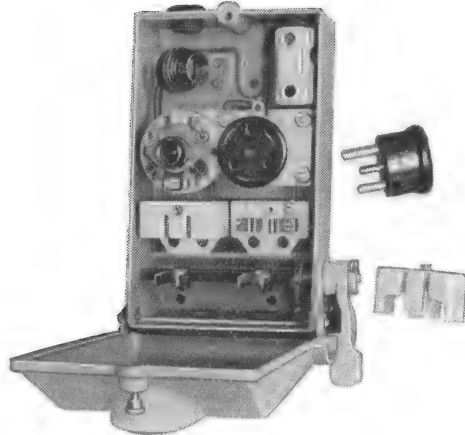
**30 Amps. 250 Volts.**

**DOUBLE POLE.**

To British Standard Specification No. 438 (1932).



**X 6068**



**X 6069**

**Case.** Cast iron. Stocked in two finishes ; "Standard" (plain grey, stove enamelled), and "De Luxe" (mottled grey, vitreous enamelled).

**Main switch.** 30 amps. double pole, with positive quick make and quick break action, and external interlocking operating handle.

**Pilot light.** Standard B.C. holder to take a 15-watt OSRAM pigmy sign lamp or a 0.5-watt OSGLIM neon indicator lamp, mounted directly opposite to a red bull's-eye inset in lid of case.

**Kettle sub-circuit.** Controlled by a double pole quick-make-and-break "Landor" switch, with brown Bakelite knob, and a B.S.S. 3-pin socket and side entry plug. Available in two capacities : 5 amps. and 15 amps. Handshield plugs can be supplied at slight extra charge.

**Fuses.** One H.O. fuse is provided for the dual protection of the pilot lamp and the kettle sub-circuit.

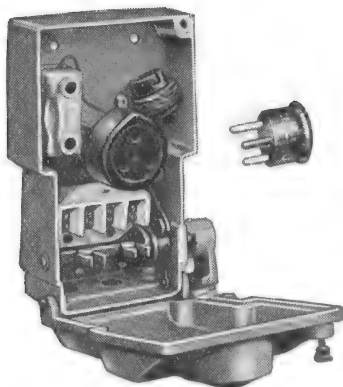
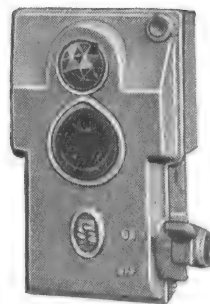
**Interconnections.** All interconnections are provided.

**Cable entries.** Two holes at the bottom and one at the top of the case, tapped 1in. E.T. and fitted with screwed insulating bushes.

Cat. No.	Sub-Circuit	Overall dimensions (approx.)			Weight (approx.)		Price each					
		Height	Width	Pro- jection			Plain grey stove enamelled			Mottled grey vitreous enamelled		
	Amps.	Ins.	Ins.	Ins.	Lb.	Kilos.	£	s.	d.	£	s.	d.
X 6068	5	10	7 $\frac{1}{2}$	5 $\frac{1}{2}$	11 $\frac{3}{4}$	5.32	1	1	0	1	5	0
X 6069	15	10	7 $\frac{1}{2}$	5 $\frac{1}{2}$	12	5.44	1	4	0	1	8	0

**S.E.C.**

# IRONCLAD COOKER CONTROL SWITCH

**20 Amps.      250 Volts.****DOUBLE POLE.****X 6058****X 6058**

**Case.** Cast iron finished mottled grey stove enamelled.

**Main switch.** 20 amps. double pole with positive quick-make and quick-break action ; external interlocking handle.

**Pilot light.** Standard B.C. for either a 15 watt OSRAM Pygmy sign lamp or a 0.5 OSGLIM indicator lamp mounted directly opposite to a red bull's-eye inset.

**Sub-circuit.** 5 amp. 3-pin side entry plug and damper shutter socket. Handshield plugs can be supplied at slight extra charge.

**Interconnections.** All interconnections are provided.

**Cable entries.** Two holes at the bottom and one at the top of the case tapped  $\frac{3}{8}$  in. E.T. and fitted with screwed insulating bushes.

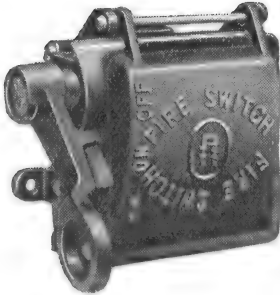
Amps.	Cat. No.	Overall dimensions			Weight (approx.)		Price each	
		Height	Width	Projection				
20	X 6058	Ins. $8\frac{1}{4}$	Ins. 6	Ins. $3\frac{1}{2}$	Lb. $7\frac{1}{2}$	Kilos. 3.51	s. <b>18</b>	d. <b>8</b>

# IRONCLAD SWITCHES FOR NEON SIGNS

**QUICK MAKE AND QUICK BREAK**

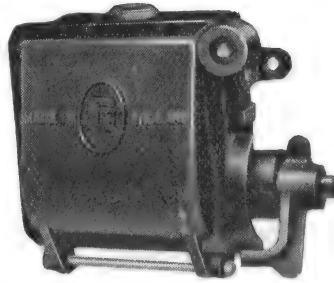
**20 Amps. 250 Volts.**

**DOUBLE POLE.**



**X 6491F**

**FIREMAN'S SWITCH  
(Finished Red).**



**X 6491A**

**LOCKED SWITCH  
(Finished Black).**

These switches have been specially designed for use on the low voltage side of neon sign installations. They comply fully with Clauses 807 and 808 of the I.E.E. Regulations (Tenth Edition). The use of these two types of switch on neon sign installations is required by most local authorities.

## FIREMAN'S SWITCH.

Capacity		Cat. No.	Overall dimensions			Weight (approx.)		Price each	
			Height	Width	Depth				
Amps.	Volts.		Ins.	Ins.	Ins.	Lb.	Kilos.	s.	d.
20	250	X 6491F	4½	5½	4½	3½	1.59	6	8
30	250	X 6071F	6½	7½	5½	7½	3.4	11	8

## LOCKED SWITCH.

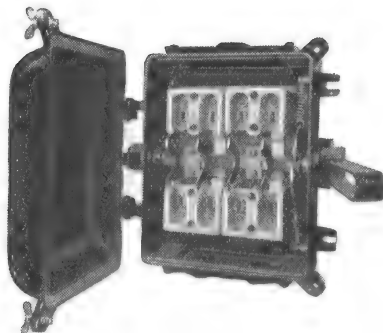
Capacity		Cat. No.	Overall dimensions			Weight (approx.)		Price each	
			Height	Width	Depth				
Amps.	Volts.		Ins.	Ins.	Ins.	Lb.	Kilos.	s.	d.
20	250	X 6491A	4½	6½	3	3½	1.64	11	0
30	250	X 6071A	6½	9	4½	7½	3.34	18	0

## LOCKED SWITCH WITH FUSES.

Capacity		Cat. No.	Overall dimensions			Weight (approx.)		Price each	
			Height	Width	Depth				
Amps.	Volts.		Ins.	Ins.	Ins.	Lb.	Kilos.	s.	d.
15	250	X 3020A	7½	6½	3½	5½	2.43	13	4

**S.E.C.**

## IRONCLAD DOUBLE THROW OR CHANGE-OVER SWITCHES



**X 6091**

The construction of all sizes follows generally on the lines of the "D.B." range, excepting that the action is quick break only; the quick break spring arm in the full-on position passes over the dead centre and exerts a hold-on influence. The cases are tapped three holes for conduit, and in the 30 and 60 amp. sizes the ends are detachable and reversible. Standard drilling: 15 amp.  $\frac{3}{4}$  in. E.T.; 30 amp.  $1\frac{1}{4}$  in. E.T.; 60 amp.  $1\frac{1}{2}$  in. E.T. Cases can be rendered weatherproof.

### Double pole.

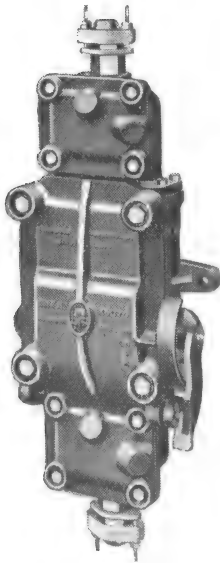
Capacity		Cat. No.	Overall dimensions (approx.)			Weight (approx.)		Price each		
			Height	Width	Depth					
Amps.	Volts.		Ins.	Ins.	Ins.	L.b.	Kilos.	£	s.	d.
15	250	X <b>6367</b>	$7\frac{1}{2}$	$6\frac{1}{2}$	4	$6\frac{1}{8}$	2.78	<b>15 0</b>		
10	500									
30	500	X <b>6091</b>	$9\frac{1}{2}$	$10\frac{3}{8}$	$4\frac{1}{2}$	14	6.35	<b>1</b>	<b>7</b>	<b>8</b>
60	500	X <b>6092</b>	$11\frac{1}{2}$	$11\frac{1}{2}$	$5\frac{1}{4}$	20	9.06	<b>1</b>	<b>16</b>	<b>4</b>

### Triple pole.

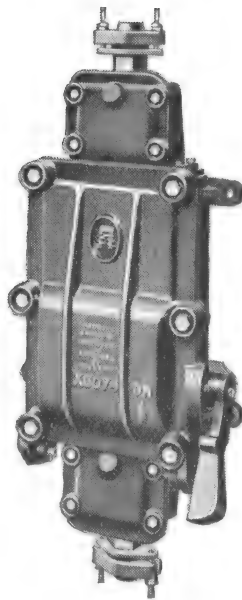
Capacity		Cat. No.	Overall dimensions (approx.)			Weight (approx.)		Price each		
			Height	Width	Depth					
Amps.	Volts.		Ins.	Ins.	Ins.	L.b.	Kilos.	£	s.	d.
15	250	X <b>6369</b>	$7\frac{1}{2}$	$8\frac{3}{4}$	4	$8\frac{1}{2}$	3.85	<b>1</b>	<b>0</b>	<b>0</b>
10	500									
30	500	X <b>6094</b>	$10\frac{1}{4}$	12	$4\frac{1}{2}$	$21\frac{1}{2}$	9.75	<b>2</b>	<b>2</b>	<b>0</b>
60	500	X <b>6095</b>	$12\frac{3}{8}$	$14\frac{3}{8}$	$5\frac{1}{4}$	$30\frac{1}{4}$	13.72	<b>2</b>	<b>15</b>	<b>4</b>

# FLAMEPROOF IRONCLAD SWITCHES WITH FUSES

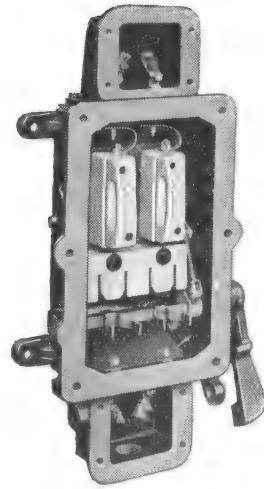
**15 and 30 Amps. 500 Volts.**



**X 6070**



**X 6074**



**X 6074** (with hinged front removed).

These flameproof switches with fuses comply in all respects with British Standard Specification No. 126 (1930) and have received the certificates of Buxton Testing Station of the Mines Department.

The switches are supplied with end boxes tapped 1in. E.T. in the 15 amp. and 1½in. E.T. in the 30 amp. sizes. When armoured cables are used suitable glands can be supplied for screwing into these boxes.

Capacity		Cat. No.	Description	Weight (approx.)		Price each			Glands for Armoured Cable	
Amps.	Volts.			Lb.	Kilos.	£	s.	d.	Price each	
15	500	X <b>6070</b>	Double pole	29½	13.48	<b>3</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>8</b>
15	500	X <b>6072</b>	Triple pole	38	17.24	<b>5</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>8</b>
30	500	X <b>6074</b>	Double pole	52½	23.81	<b>6</b>	<b>6</b>	<b>0</b>	<b>5</b>	<b>8</b>
30	500	X <b>6076</b>	Triple pole	73	33.04	<b>9</b>	<b>5</b>	<b>0</b>	<b>5</b>	<b>8</b>

*For dimensions see page 372.*

# S.E.C.

## "D.B." IRONCLAD SWITCHES WITH INTERLOCKED PLUGS

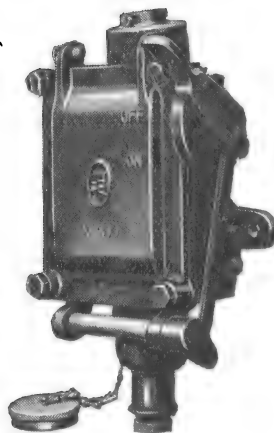
**15 Amps. 250 Volts.**

**10 Amps. 500 Volts.**



**X 6439**

**D.P. SWITCH PLUG.**



**X 6499**

**SWITCH FUSE AND PLUG.**  
for use in inflammable vapour.

The X 6439 is an industrial pattern D.P. switch with interlocked three-pin plug, and the X 6489 a T.P. switch with four-pin plug. The unit is weatherproof and suitable for heavy duty.

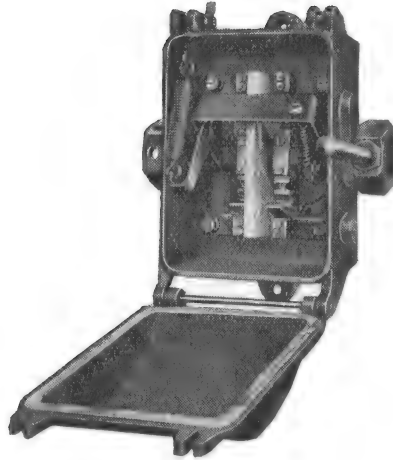
The top of the case is tapped  $\frac{3}{8}$  in. E.T.

The X 6499 D.P. switch-fuse and plug is specially suitable for use in petrol stations and other situations where inflammable vapour is present. A certificate has been issued by Sheffield University on its flameproof qualities.

The conduit adaptor at top of case is drilled  $\frac{3}{8}$  in. clear and has a screw grip.

Capacity		Number of poles	Cat. No.	Dimensions (approx.)			Weight (approx.)		Price each		
Amps.	Volts.			Height	Width	Proj.	Lb.	Kilos.	£	s.	d.
15	250	Double	X 6439	11	6	5½	9	4.08	1	16	4
10	500										
15	250	Triple	X 6489	10½	7	5½	10	4.6	2	3	8
10	500										
15	250	Double	X 6499	12½	7½	4	15	6.8	2	5	4



**S.E.C.****IRONCLAD LIMIT SWITCHES****10 Amps. 500 Volts.****X 9139**

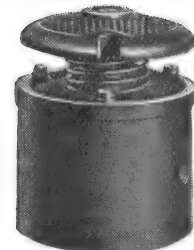
To prevent the accidental overtravel of cranes, hoists, machine tools, etc., when controlled by solenoid operated switchgear. They are self-resetting and have a quick make and break action. Can be supplied either "normally open" or "normally closed." The tappet rod can be placed on any side of either of the hexagonal carriers, allowing the switches to be operated from a number of different points.

Capacity		Cat. No.	Type	Dimensions (approx.)			Weight (approx.)		Price each		
Amps.	Volts.			Height	Width	Depth	Lb.	Kg.	£	s.	d.
10	500	<b>X 9138</b>	Single pole	8½	8	5½	13	5.9	<b>3</b>	<b>18</b>	<b>4</b>
10	500	<b>X 9139</b>	Double pole	9½	8	5½	16	7.26	<b>4</b>	<b>10</b>	<b>8</b>

**IRONCLAD PEDAL SWITCHES****INDOOR TYPE****5 Amps. 500 Volts.**

Specially suitable for the remote control of solenoid operated switchgear for capstan motors. Mounted in circular cast iron cases, fitted with large diameter mushroom headed plunger. Suitable for 5 amps. at 500 volts A.C. or D.C.

Cat. No.	Operation	Dimensions (approx.)		Weight (approx.)		Price each		
		Height	Diam.	Lb.	Kg.	£	s.	d.
<b>X 9141</b>	Closes circuit when pressed Opens one circuit and closes another when pressed	5½	4½	8½	4	<b>2</b>	<b>16</b>	<b>8</b>
<b>X 9142</b>		5½	4½	8½	4	<b>3</b>	<b>11</b>	<b>4</b>
		5½	4½	8½	4	<b>3</b>	<b>11</b>	<b>4</b>

**X 9141**

# S.E.C.

## IRONCLAD GATE SWITCHES



X 9135

**1 Amp. 250 Volts.**

For use in conjunction with lifts, doors or other gear that is electrically interlocked with solenoid operated switchgear. Made in two types, one to close the circuit when pressed and the other to open the circuit when pressed.

Cat. No.	Operation	Overall dimensions			Weight (approx.)		Price each	
		Length	Width	Depth			s.	d.
X 9135	Push to make ..	6½	2½	2½	1 lb.	1.12	14	2
X 9136	Push to break ..	6½	2½	2½	2¼	1.12	14	2



X 9145

## IRONCLAD PUSH BUTTON SWITCHES

**1 Amp. 250 Volts. 0.5 Amp. 500 Volts.**

For use on circuits up to 500 volts, at currents up to 0.5 amp., or on 250 volts up to 1 amp. ; suitable for the remote control of solenoid operated switchgear. The cases are weatherproof.

Cat. No.	No. of Buttons.	Type	Operation	Overall dimensions (approx.)			Weight (approx.)		Price each	
				H.	W.	D.			s.	d.
X9145	1	"Start"	Push to make ..	4	4	3½	3½	1.59	10	4
X9146	1	"Stop"	Push to break ..	4	4	3½	3½	1.59	10	4
X9147	2	"Start" and "Stop"	(1 Push to make) (1 Push to break)	5½	4½	3½	5¼	2.38	16	0
X9148	3	"Start, Stop and Reverse"	(2 Push to make) (1 Push to break)	7½	4½	3½	7	3.18	1	2 4
*X9134	3	"Start, Stop and Inch"	(2 Push to break) (1 Push to make)	7½	4½	3½	8	3.62	2	6 8
X9137	1	"Inch"	Change over from break to make	4	4	4½	5½	2.48	2	6 8

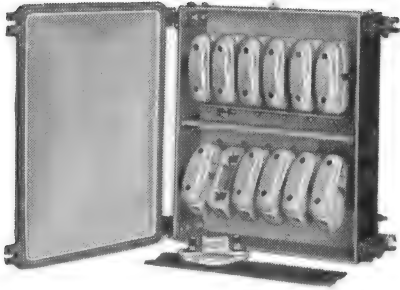
\*X9134—"Start" normally open, "Inch" and "Stop" normally closed; "Stop" button opens circuit when pressed; "Inch" button when pressed opens "Inching" circuit and "Stop" circuit and closes the "Start" circuit.

**S.E.C.**

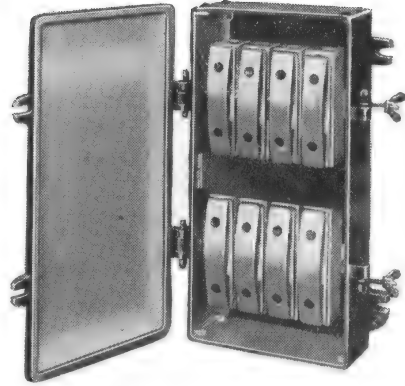
## **IRONCLAD FUSEBOARDS**

### **CHINA UNIT TYPE**

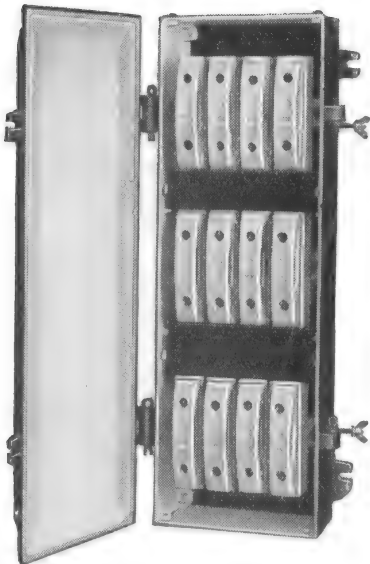
**For Circuits up to 500 Volts.**



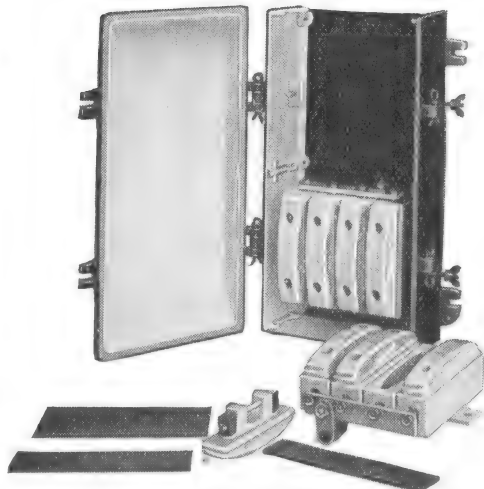
**X 4619**



**X 4611**



**X 4651**



**X 4611** One bank of fuses, shields and top plate removed.

In these distribution boards the fuse units are H.O. pattern, fixed to iron straps, and each bank of fuses can be readily removed to facilitate erection. In the 20 amp. size up to six-way, the banks can also be tilted for this purpose. Neutral busbars can be supplied where required. The cases are of cast-iron and steel plate. All fronts are of cast-iron, and a special lug is provided to accommodate a padlock. The end plates are detachable.

**The features of these boards are ease of access, adequate clearances, and a minimum of time and labour required for erection.**

*For ratings and prices see pages 348 and 349.*

## IRONCLAD FUSEBOARDS CHINA UNIT TYPE

For Circuits up to 500 Volts.

Num-ber of ways	Carry-ing capa-city	Double pole				Triple pole							
		Cat. No.	Weight (approx.)		Price each	Cat. No.	Weight (approx.)		Price each				
	Amps.		Lb.	Kilos.	£	s.	d.		Lb.	Kilos.	£	s.	d.
2	20	X <b>4599</b>	14	6.4	<b>1</b>	<b>1</b>	<b>8</b>	X <b>4639</b>	19	8.6	<b>1</b>	<b>11</b>	<b>0</b>
	30	X <b>4600</b>	28	12.7	<b>1</b>	<b>13</b>	<b>8</b>	X <b>4640</b>	45	20.4	<b>2</b>	<b>9</b>	<b>4</b>
	60	X <b>4601</b>	34	15.4	<b>2</b>	<b>14</b>	<b>0</b>	X <b>4641</b>	58	26.3	<b>4</b>	<b>4</b>	<b>0</b>
	100	X <b>4602</b>	63	28.6	<b>4</b>	<b>2</b>	<b>0</b>	X <b>4642</b>	94	42.9	<b>6</b>	<b>0</b>	<b>0</b>
3	20	X <b>4604</b>	18	8.15	<b>1</b>	<b>7</b>	<b>4</b>	X <b>4644</b>	26	11.8	<b>1</b>	<b>18</b>	<b>0</b>
	30	X <b>4605</b>	30	13.6	<b>1</b>	<b>16</b>	<b>4</b>	X <b>4645</b>	47	21.3	<b>2</b>	<b>15</b>	<b>0</b>
	60	X <b>4606</b>	37	16.8	<b>3</b>	<b>9</b>	<b>8</b>	X <b>4646</b>	61	27.6	<b>5</b>	<b>4</b>	<b>0</b>
	100	X <b>4607</b>	69	31.3	<b>5</b>	<b>10</b>	<b>0</b>	X <b>4647</b>	100	45.4	<b>7</b>	<b>13</b>	<b>8</b>
4	20	X <b>4609</b>	23	10.4	<b>1</b>	<b>11</b>	<b>8</b>	X <b>4649</b>	31	14.1	<b>2</b>	<b>5</b>	<b>8</b>
	30	X <b>4610</b>	36	16.3	<b>2</b>	<b>2</b>	<b>8</b>	X <b>4650</b>	50	22.7	<b>3</b>	<b>1</b>	<b>4</b>
	60	X <b>4611</b>	46½	21.1	<b>4</b>	<b>5</b>	<b>4</b>	X <b>4651</b>	71	32.2	<b>6</b>	<b>4</b>	<b>0</b>
	100	X <b>4612</b>	90	40.8	<b>6</b>	<b>18</b>	<b>0</b>	X <b>4652</b>	110	49.9	<b>9</b>	<b>16</b>	<b>0</b>
5	20	X <b>4614</b>	26	11.8	<b>1</b>	<b>16</b>	<b>0</b>	X <b>4654</b>	36	16.3	<b>2</b>	<b>11</b>	<b>0</b>
	30	X <b>4615</b>	43	19.5	<b>2</b>	<b>9</b>	<b>4</b>	X <b>4655</b>	63	28.6	<b>3</b>	<b>10</b>	<b>8</b>
	60	X <b>4616</b>	57	25.9	<b>5</b>	<b>0</b>	<b>0</b>	X <b>4656</b>	80	36.3	<b>7</b>	<b>4</b>	<b>0</b>
	100	X <b>4617</b>	128	58.1	<b>8</b>	<b>8</b>	<b>0</b>	X <b>4657</b>	135	61.2	<b>12</b>	<b>6</b>	<b>0</b>
6	20	X <b>4619</b>	29	13.2	<b>2</b>	<b>1</b>	<b>0</b>	X <b>4659</b>	41	18.6	<b>2</b>	<b>17</b>	<b>8</b>
	30	X <b>4620</b>	46	20.9	<b>2</b>	<b>12</b>	<b>0</b>	X <b>4660</b>	67	30.4	<b>4</b>	<b>0</b>	<b>0</b>
	60	X <b>4621</b>	62	28.12	<b>5</b>	<b>15</b>	<b>0</b>	X <b>4661</b>	95	43.5	<b>8</b>	<b>4</b>	<b>0</b>
	100	X <b>4622</b>	131	59.4	<b>9</b>	<b>15</b>	<b>8</b>	X <b>4662</b>	157	71.6	<b>14</b>	<b>2</b>	<b>0</b>
8	20	X <b>4624</b>	42	19.1	<b>2</b>	<b>19</b>	<b>0</b>	X <b>4664</b>	63	28.6	<b>4</b>	<b>7</b>	<b>4</b>
	30	X <b>4625</b>	56	25.4	<b>3</b>	<b>5</b>	<b>0</b>	X <b>4665</b>	83	37.7	<b>4</b>	<b>13</b>	<b>0</b>
	60	X <b>4626</b>	76	34.5	<b>7</b>	<b>12</b>	<b>0</b>	X <b>4666</b>	126	57.2	<b>10</b>	<b>14</b>	<b>0</b>
	100	X <b>4627</b>	168	76.4	<b>10</b>	<b>14</b>	<b>0</b>	X <b>4667</b>	210	95.25	<b>18</b>	<b>8</b>	<b>0</b>
10	20	X <b>4629</b>	52	23.6	<b>3</b>	<b>9</b>	<b>4</b>	X <b>4669</b>	74	33.6	<b>5</b>	<b>0</b>	<b>4</b>
	30	X <b>4630</b>	70	31.75	<b>5</b>	<b>14</b>	<b>0</b>	X <b>4670</b>	98	44.5	<b>5</b>	<b>19</b>	<b>0</b>
12	20	X <b>4634</b>	59	26.8	<b>3</b>	<b>18</b>	<b>0</b>	X <b>4674</b>	92	41.73	<b>6</b>	<b>8</b>	<b>0</b>
	30	X <b>4635</b>	84	38.1	<b>7</b>	<b>5</b>	<b>0</b>	X <b>4675</b>	107	48.54	<b>9</b>	<b>10</b>	<b>0</b>

The above prices are for fuseboards with undrilled end plates.

**Drilling can be provided at a small extra charge.**

Spare fuse carriers : 20 amp., 1s. 0d. each ; 30 amp., 1s. 4d. each ; 60 amp., 2s. 4d. each ; 100 amp., 3s. 6d. each.

*For dimensions see pages 368 and 369.*

*For triple pole boards with neutral busbar see page 349.*

# IRONCLAD FUSEBOARDS

**CHINA UNIT TYPE.**

**TRIPLE POLE WITH NEUTRAL BUSBAR.**

**For Circuits up to 500 Volts.**

These boards are identical to the triple pole types shown on pages 347 and 348, with the addition of a neutral busbar mounted on insulated supports and fitted to the back of the case beneath the top bank of fuses.

No. of ways	Carrying capacity	Cat. No.	Price each			No. of ways	Carrying capacity	Cat. No.	Price each		
	Amps.		£	s.	d.		Amps.		£	s.	d.
2	20	X4639N	1	14	4	5	60	X4656N	7	17	4
	30	X4640N	2	14	8		100	X4657N	13	4	0
	60	X4641N	4	14	0						
	100	X4642N	6	12	8						
3	20	X4644N	2	2	4	6	20	X4659N	3	5	4
	30	X4645N	3	2	8		30	X4660N	4	12	0
	60	X4646N	5	14	4		60	X4661N	8	17	0
	100	X4647N	8	7	4		100	X4662N	15	0	0
4	20	X4649N	2	10	4	8	20	X4664N	4	18	4
	30	X4650N	3	9	0		30	X4665N	5	6	0
	60	X4651N	6	14	4		60	X4666N	11	12	0
	100	X4652N	10	11	9		100	X4667N	20	11	0
5	20	X4654N	2	18	8	10	20	X4669N	5	12	8
	30	X4655N	4	2	8		30	X4670N	6	15	8
	20	X4674N	7	2	0	12	20	X4674N	7	2	0
	30	X4675N	10	10	0		30	X4675N	10	10	0

The above prices are for fuseboards with undrilled end plates.

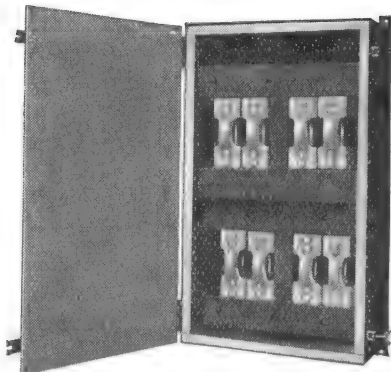
**Drilling can be provided at a small extra charge.**

Spare fuse carriers: 20-amp., 1s. 0d. each; 30-amp., 1s. 4d. each; 60-amp., 2s. 4d. each; 100-amp., 3s. 6d. each.

## STEPPED TYPE.

**From 20 to 200 Amp. per way. 500 Volts.**

**Construction.** Each board consists of two or three oiled slate panels equipped with Hand-guard cut-outs, and fixed to angle-iron battens. To facilitate connecting up, the panels are arranged at different distances from the back of the case. The wires for each pole are brought in at different levels, those for the lower set passing behind the upper panel. As all connections are arranged on the front of the panels, unnecessary bending of the cables and confusion of wiring is avoided. To conform to Home Office Regulations, all live metal parts on the front of the panels are covered by slate insulating shields and dividing fillets are fitted between each fuse. These shields can be readily removed when necessary for access to the terminals. Boards are complete with busbars, sweating sockets, etc.



**X 8622**

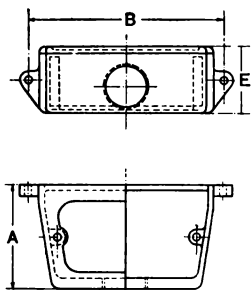
**Case.** All cases are made of welded steel plate, with hinged solid lids and wing nut fastenings. Padlocks and keys can be provided at a slight extra charge.

**Cable inlets.** Plain clearance holes are arranged at the top of the case, in the most convenient positions for the incoming and outgoing panels.

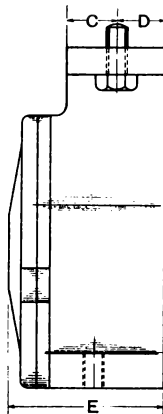
**Prices on application.**

## IRONCLAD CABLE BOXES

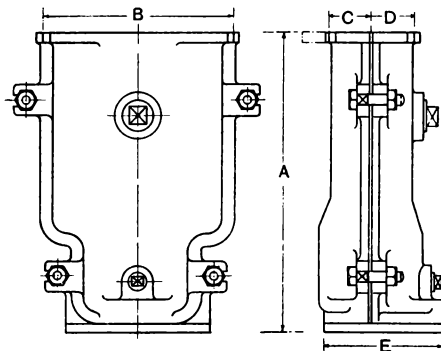
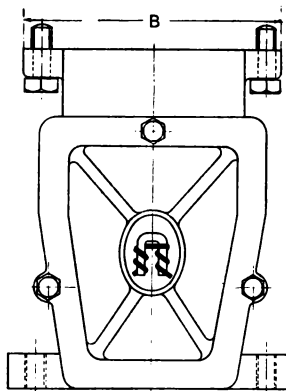
### DIMENSIONS.



FOR 15-20 AMP. SWITCHES



FOR 30 AND 60 AMP SWITCHES



FOR 100, 150 AND 200 AMP SWITCHES  
FOR TWIN CABLES.

Cat. No.	Switch	Catalogue Number of switch for which suitable	Dimensions					Price each with glands					
			A	B	C	D	E	S.W.A.			S.T.A.		
	Amps.		Ins.	Ins.	Ins.	Ins.	Ins.	£	s.	d.	£	s.	d.
X 6503	20	X 3011, X 6491	2½	2 ⅞	2 ⅞	⅞	1 ⅞	4	8		4	8	
X 6505	30	X 6071, X 6065, X 6085	5	3 ⅞	⅞	⅞	2 ⅞	16	8		16	4	
X 6507	60	X 4402, X 4512, X 4514	6	4 ⅞	1 ⅞	⅞	⅞	19	8		18	4	
X 6463	100-150	X 4505, X 4515, X 4415, X 4513	10 ⅞	6 ⅞	1	1	4 ⅞	1 19	0		2 5	4	
X 6465	200	X 4516	11 ½	6 ⅞	1 ½	1 ½	4 ⅞	2 14	0		3 2	0	

FOR THREE AND FOUR CORE CABLES.

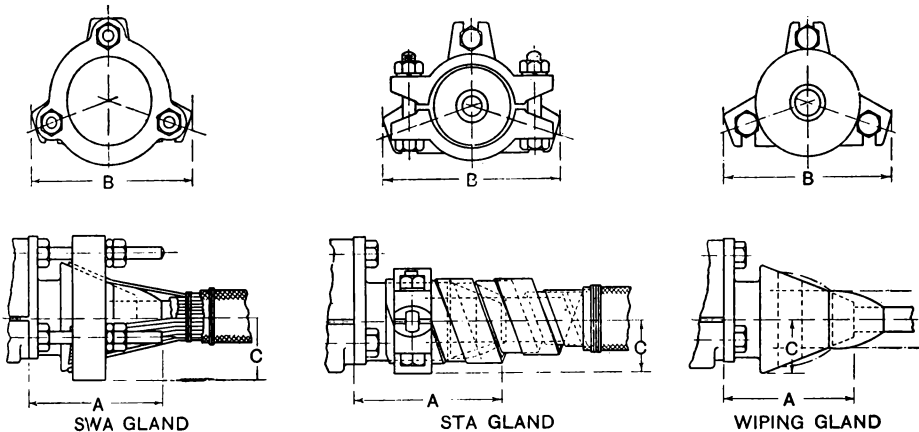
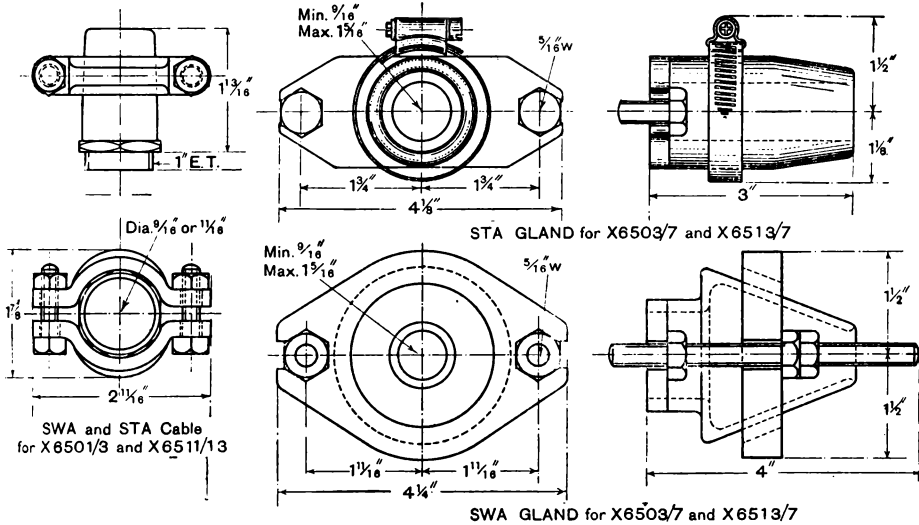
Cat. No.	Switch	Catalogue Number of switch for which suitable	Dimensions					Price each with glands					
			A	B	C	D	E	S.W.A.			S.T.A.		
			Ins.	Ins.	Ins.	Ins.	Ins.	£	s.	d.	£	s.	d.
X 6513	20	X 3013, X 6493	2½	4 ⅞	⅞	⅞	1 ⅞	5	0		5	0	
X 6515	30	X 6073, X 6067, X 6087	5	5 ⅞	⅞	⅞	2 ⅞	17	8		17	4	
X 6517	60	X 4422, X 4532, X 4534	6	7 ⅞	1 ⅞	⅞	2 ⅞	1	1	0	19	8	
X 6467	100-150	X 4533, X 4525, X 4535, X 4435	11 ½	9 ½	1	1	4 ⅞	2 4	8		2 11	4	
X 6469	200	X 4536	13 ½	10 ½	1 ½	1 ½	4 ⅞	3 3	0		3 12	0	

For details of glands see page 351.

\* These boxes are also suitable for the equivalent Triple pole and Neutral switch fuses.

# GLANDS FOR IRONCLAD CABLE BOXES

## DIMENSIONS.



For Cable boxes Number	S.W.A.						S.T.A.						Wiping					
	A	B	C	D	E	F	A	B	C	D	E	F	A	B	C	D	E	F
X 6463/5	4 $\frac{1}{2}$	5 $\frac{1}{2}$	2	2 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{8}$	4 $\frac{1}{2}$	5 $\frac{1}{2}$	1 $\frac{1}{2}$	2 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{8}$	3 $\frac{1}{2}$	5 $\frac{1}{2}$	1 $\frac{1}{2}$	—	2 $\frac{1}{2}$	1 $\frac{1}{8}$
X 6467/9	5	6	2 $\frac{1}{2}$	3	2 $\frac{1}{8}$	1 $\frac{1}{8}$	5	6	2 $\frac{1}{8}$	3	2 $\frac{1}{8}$	1 $\frac{1}{8}$	4 $\frac{1}{2}$	6	2 $\frac{1}{2}$	—	3	1 $\frac{1}{8}$

D=Maximum size through gland (not wiped).

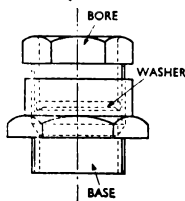
E=Maximum size through gland (wiper joint).

F=Minimum bore of gland.

The brass cone glands have tapered cores so that they can be cut back to suit the diameter of cable used.

# S.E.C.

## IRONCLAD SWITCHGEAR

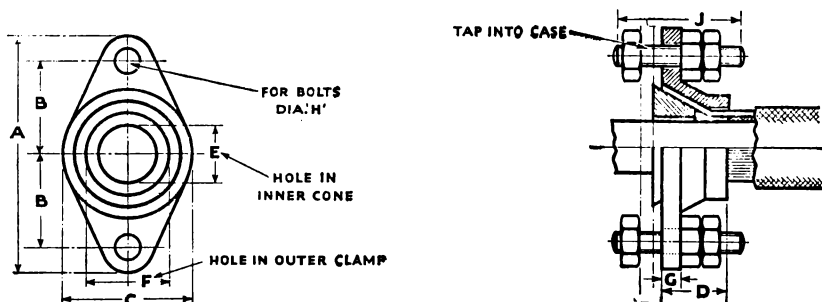


### WEATHERPROOF PACKING GLANDS.

Two-piece brass glands with inner ring. When packed with hemp or similar material are suitable for use with v.i.r. or tough rubber sheathed cable. For lead-covered cables, the use of lead wool or shavings is recommended.

Cat No.	Base screwed E.T.	Diameter of bore	Price each	
	Ins.	Ins.	s.	d.
X <b>8322</b>	$\frac{3}{4}$	$\frac{5}{16}$	<b>1</b>	<b>4</b>
X <b>8324</b>	1	$\frac{3}{8}$	<b>1</b>	<b>6</b>
X <b>8326</b>	$1\frac{1}{4}$	$\frac{7}{8}$	<b>2</b>	<b>10</b>
X <b>8328</b>	$1\frac{1}{2}$	$1\frac{1}{8}$	<b>4</b>	<b>8</b>
X <b>8330</b>	2	$1\frac{1}{2}$	<b>7</b>	<b>8</b>

### CLAMPS FOR SINGLE WIRE ARMoured CABLES.

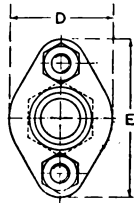
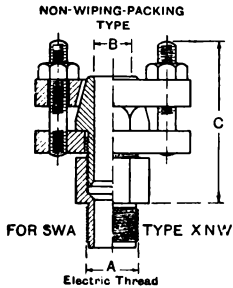


Cat. No.	A	B	C	E	F	H	J	Price each	
	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	s.	d.
X <b>8300</b>	$2\frac{5}{8}$	1	$1\frac{7}{8}$	$\frac{11}{16}$	$\frac{11}{16}$	$\frac{1}{4}$	$1\frac{1}{2}$	<b>2</b>	<b>6</b>
X <b>8301</b>	$3\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{5}{8}$	$\frac{3}{4}$	1	$\frac{1}{4}$	$1\frac{3}{4}$	<b>2</b>	<b>6</b>
X <b>8302</b>	$3\frac{3}{8}$	$1\frac{5}{8}$	$1\frac{3}{4}$	$\frac{7}{8}$	$1\frac{3}{8}$	$\frac{3}{8}$	$1\frac{5}{8}$	<b>2</b>	<b>10</b>
X <b>8303</b>	$3\frac{1}{2}$	$1\frac{1}{2}$	$2\frac{3}{8}$	$\frac{3}{4}$	$1\frac{9}{16}$	$\frac{3}{8}$	$1\frac{5}{8}$	<b>3</b>	<b>0</b>
X <b>8304</b>	4	$1\frac{5}{8}$	$2\frac{5}{8}$	$1\frac{1}{8}$	$1\frac{3}{8}$	$\frac{3}{8}$	2	<b>3</b>	<b>0</b>
X <b>8305</b>	$4\frac{5}{8}$	$1\frac{7}{8}$	$2\frac{3}{4}$	$1\frac{1}{4}$	$1\frac{9}{16}$	$\frac{3}{8}$	$2\frac{3}{8}$	<b>3</b>	<b>4</b>
X <b>8306</b>	$5\frac{1}{4}$	2	$3\frac{3}{8}$	$1\frac{1}{8}$	2	$\frac{3}{8}$	$2\frac{1}{2}$	<b>4</b>	<b>8</b>
X <b>8307</b>	$5\frac{3}{4}$	$2\frac{3}{8}$	$3\frac{7}{8}$	$1\frac{5}{8}$	$2\frac{1}{8}$	$\frac{3}{8}$	$2\frac{1}{2}$	<b>4</b>	<b>8</b>
X <b>8308</b>	6	$2\frac{1}{2}$	$3\frac{5}{8}$	$1\frac{7}{8}$	$2\frac{1}{4}$	$\frac{3}{8}$	$2\frac{1}{2}$	<b>4</b>	<b>8</b>
X <b>8310</b>	$6\frac{1}{4}$	$2\frac{3}{4}$	$4\frac{1}{4}$	$2\frac{3}{8}$	$2\frac{3}{8}$	$\frac{3}{8}$	$2\frac{3}{4}$	<b>6</b>	<b>4</b>
X <b>8312</b>	$7\frac{1}{8}$	$2\frac{15}{16}$	$4\frac{13}{16}$	$2\frac{3}{4}$	$3\frac{3}{16}$	$\frac{1}{2}$	$2\frac{3}{4}$	<b>7</b>	<b>4</b>

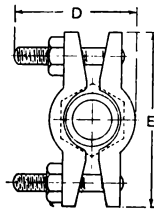
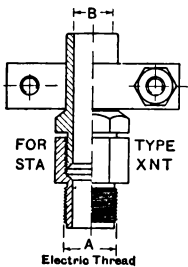
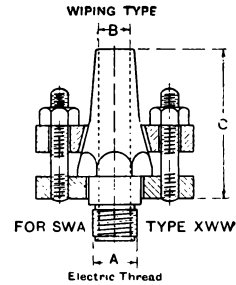
Further details on application.



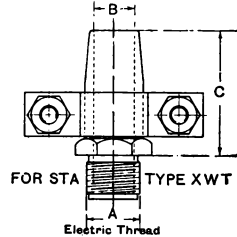
# GLANDS FOR IRONCLAD SWITCHGEAR



TYPES XNW & XWW



TYPES XNT & XWT



Type XNW For S.W.A. cable, non-wiping with packing cup.  
Type XNT For S.T.A. cable, non-wiping with packing cup.  
Type XWW For S.W.A. cable, wiping.  
Type XWT For S.T.A. cable, wiping.

Size	A E.T.	B Max. Diam.	Price each											
			Type XNW			Type XNT			Type XWW			Type XWT		
	Ins.	Ins.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
A	1 1/4	1 1/4	3	0		3	0		3	0		3	6	
B	1 1/2	1 1/2	3	8		3	8		3	8		3	4	
C	1 3/4	1 3/4	4	8		4	8		4	8		4	4	
D	2	2	6	8		6	8		6	8		5	8	
E	2 1/4	2 1/4	8	4		8	4		8	4		7	8	
F	2 1/2	2 1/2	13	0		13	0		13	0		10	0	
G	2 3/4	2 3/4	16	8		16	8		16	8		14	8	
H	3	3	1	10	0	1	10	0	1	10	0	1	5	4

When ordering please specify diameter of cable under armour in addition to the type and size of gland required.

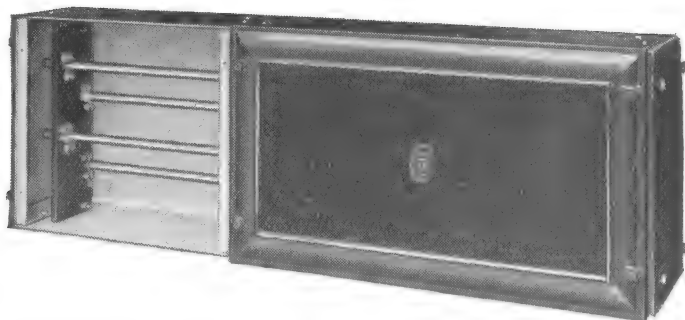
## DIMENSIONS.

Size	C				D				E			
	XNW	XNT	XWW	XWT	XNW	XNT	XWW	XWT	XNW	XNT	XWW	XWT
A	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.
B	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4
C	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2
D	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4
E	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4
F	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2
G	4	4	4	4	4	4	4	4	4	4	4	4
H	5 1/4	5 1/4	5 1/4	5 1/4	5 1/4	5 1/4	5 1/4	5 1/4	5 1/4	5 1/4	5 1/4	5 1/4

Dimensions C in types XNW and XNT are approximate and vary according to the space between the two body parts.

**G.E.C.**

## IRONCLAD SWITCHGEAR BUSBAR CHAMBERS

**X 1895****50in. BUSBAR CHAMBER.**

These busbar chambers are particularly suitable for use on switch boards in conjunction with G.E.C. Ironclad switch fuses or circuit breakers and are constructed of 13 S.W.G. steel plate with cast iron fronts and end frames. They are manufactured in two lengths viz: 20in. and 30in., and when bolted together can be built up into chambers of any length from 20in. upwards in multiples of 10in. They are stocked in five lengths complete with four busbars. By the attachment of two or more stock lengths together extensions can be readily made as desired, one set of clamping bolts X **1927** and four busbar couplers X **1926** only being required.

The busbars are of  $\frac{1}{2}$ in. diameter copper tube (maximum capacity 400 amps.) held rigidly to sindanyo supports by locating clamps at each end. Main and branch sweating sockets are stocked and supplied separately. They are constructed to clamp on to the bars in any desired position, no drilling is required.

Flat end plates are supplied fitted to the end of each complete chamber or group of chambers, but when it is desired to bring the main cables in to the end of the chamber a 5in. extension end plate attachment X **1928** can be supplied to give room for the connections, and special sweating sockets are available for fitting to the end of the bars.

**Busbar Chambers with four tubular busbars.**

Length	Number of Sections	Cat. No.	Overall dimensions			Price each		
			Length	Height	Proj.			
Ins.			Ins.	Ins.	Ins.	£	s.	d.
20	1 x 20"	X <b>1892</b>	21½	16½	9½	3	11	0
30	1 x 30"	X <b>1893</b>	31½	16½	9½	4	0	0
40	2 x 20"	X <b>1894</b>	41½	16½	9½	5	17	0
50	1 x 20" x 1 x 30"	X <b>1895</b>	51½	16½	9½	6	6	0
60	2 x 30"	X <b>1896</b>	61½	16½	9½	6	18	0

X <b>1928</b>	Extended end plate attachment	..	9s. 4d. each.
X <b>1927</b>	Set of clamping bolts for Chamber extensions	..	1s. 0d. per set.
X <b>1926</b>	Clamp couplers for busbar extensions	..	5s. 8d. each.

**Sweating sockets, clamp type.**

X <b>1940</b>	30 amp., 10s. 0d. per doz.	X <b>1943</b>	200 amp., 14s. 4d. per doz.
X <b>1941</b>	60 amp., 11s. 4d. per doz.	X <b>1944</b>	300 amp., 67s. 0d. per doz.
X <b>1942</b>	100 amp., 13s. 0d. per doz.	X <b>1945</b>	400 amp., 67s. 0d. per doz.
		X <b>1946</b>	500/600 amp., 89s. 0d. per doz.

**Sweating Sockets, clamp type, for mains entering end of Chamber.**

X <b>1951</b>	100 amp.	19s. 4d. per doz.
X <b>1952</b>	200 amp.	19s. 4d. per doz.
X <b>1953</b>	300 amp.	56s. 0d. per doz.
X <b>1954</b>	400 amp.	56s. 0d. per doz.
X <b>1955</b>	500/600 amp.	68s. 0d. per doz.

*Solid Copper Rod Busbars can be fitted for 600 amps. Price on application.*

## **COMPOSITE UNIT TYPE IRONCLAD SWITCHBOARDS FOR VOLTAGES UP TO 500.**

G.E.C. composite unit type switchboards are specially designed to enable complete switchboards to be built up from stock components on site, incorporating G.E.C. "D.B." ironclad switches with fuses. The framework is supplied already drilled so that erection can be carried out at maximum speed and minimum cost. Complete switchboards, if required, can be erected at the Works at a small extra cost.

The arrangement is extremely simple and practical, the components being as follows :—

**Main uprights** are supplied in four sizes, depending upon the capacity of the switch mounted *above* the busbar chamber. The uprights are drilled to accommodate the busbar chamber. Above the busbar chamber they are drilled for the appropriate switch with fuses, while below the drilling is such that any size of switch and fuse from 30 to 100 amps. can be mounted.

**Floor angles** are available in two sizes, one for use with a single upright member, and the other to join the members together in pairs when two or more uprights are incorporated on the board.

**Busbar chambers** are built up of angle iron and steel plates, the top and bottom plates being supplied in two parts. The rear sections are slotted for the outgoing cables to the switches.

**Switch supports** comprise two straps for bolting on to the main uprights and are drilled to correspond with the fixing holes of the respective switch-fuses. For 30-amp. and 60-amp. switches, spacing pieces are provided to ensure correct alignment of the switches with the opening in the busbar chamber.

**Adaptors** or throats of special design are provided for each size of switch or combination of switches for coupling on to the busbar chamber.

**End plates** for busbar chambers are supplied separately, two being required per complete switchboard.

**Busbar supports** are rectangular and made of sindanyo. They are secured to the top and bottom plates of the busbar chamber by right angle brackets, each support being drilled with four holes to accommodate the circular busbars. One busbar support is required for each section of busbar chamber and one additional support for each complete switchboard.

**Locating clamps** are supplied in sets of four half clamps, one set being required for each busbar. They are clamped to the bars in pairs at each side and hard up against the supports, thus preventing any horizontal movement of the busbar. A tongue on one half clamp engages with a small hole in the support and prevents rotation of the bar.

**Extension clamps** are included for joining two lengths of busbars together.

**Main sweating sockets** are suitable for clamping on to the busbars. They are made in two types : (1) for fixing on the end of busbars for mains entering at side of busbar chamber, and (2) for clamping to the middle of the busbars for mains entering at top or bottom of the chamber.

**Circuit sweating sockets** are made in 30, 60 and 100-amp. sizes. They are suitable for clamping in pairs to the busbars, while all sizes match together. If only one switch is to be connected to the busbars, plain half clamps can be supplied.

All parts are stocked completely drilled and supplied unassembled, while all necessary nuts, screws, bolts, etc., for complete erection and assembly are provided.

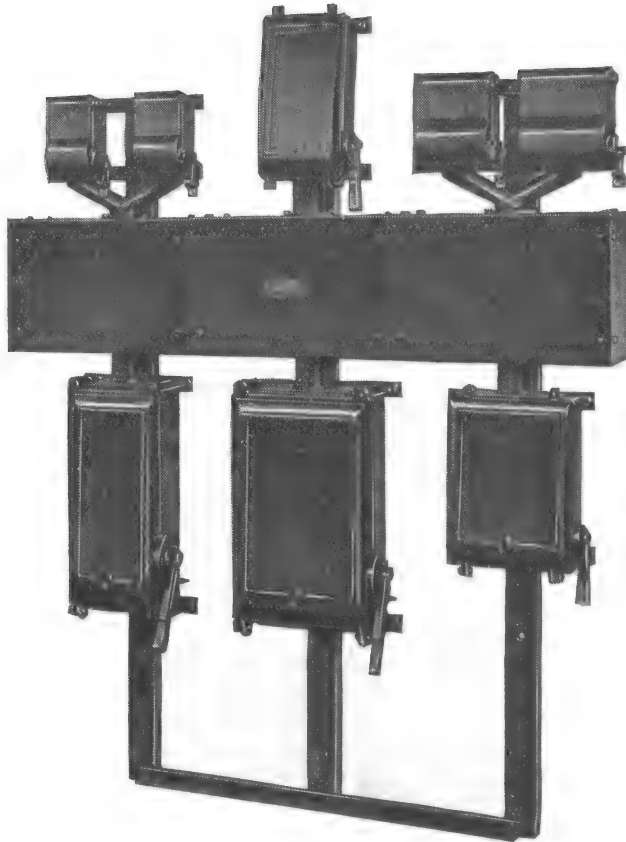
*For dimensions see following page.*

**S.E.C.**

## **COMPOSITE UNIT TYPE IRONCLAD SWITCHBOARDS**

**FOR VOLTAGES UP TO 500.**

Complying in every respect with appropriate British Standard Specifications and Home Office Regulations.



Typical composite unit switchboard.

### **DIMENSIONS.**

Overall height of board (dependent on capacity of largest switch mounted above busbar chamber).				Overall width of each busbar chamber section		Depth from front of busbar chamber
100 amps.	60 amps.	30 amps.	No switch			
ft. ins. 7 0½	ft. ins. 6 4 ⅞	ft. ins. 5 10 ⅞	ft. ins. 4 9 ⅞	ft.	ins.	ins.
				1	8	10½

*For prices of component parts see pages 357 and 358.*

**COMPOSITE UNIT TYPE IRONCLAD  
SWITCHBOARDS  
FOR VOLTAGES UP TO 500.**

**PRICES OF COMPONENT PARTS**

Cat. No.	Description	Price each		
		£	s.	d.
	<b>Main upright with busbar chamber section, one busbar support and necessary screws and fixing bolts.</b>			
X 1880	Size A, for 100-amp. switch-fuse above busbar chamber .. .. .	3	0	0
X 1881	Size B, for 60-amp. switch-fuse above busbar chamber .. .. .	2	19	0
X 1882	Size C, for 30-amp. switch-fuse above busbar chamber .. .. .	2	17	4
X 1883	Size D, for no switch-fuse above busbar chamber .. .. .	2	11	0
	<b>Floor angles.</b>			
X 1886	For single upright .. .. .	1	10	
X 1887	For joining two uprights .. .. .	3	3	
	<b>End plates.</b>			
X 1888	For busbar chamber (two are required for each complete board) .. .. .	1	10	
X 1889	For busbar chamber (heavy pattern to accommodate cable boxes) .. .. .	2	4	
	<b>Cover plates.</b>			
X 1891	For closing top or bottom opening in the busbar chamber when this feature is not required .. .. .	1	10	
	<b>Switch supporting straps, spacing pieces, switch adaptors and bolts.</b>			
		Per set		
X 1901	For 100-amp. triple pole switch-fuse (X 4535) or triple pole switch-fuse with neutral connector (X 4535L) .. .. .	7	4	
X 1903	For 100-amp. double pole switch-fuse (X 4515) .. .. .	7	0	
X 1904	For 60-amp. triple pole switch-fuse (X 4532) or triple pole switch-fuse with neutral connector (X 4532L) .. .. .	8	0	
X 1905	For 60-amp. double pole switch-fuse (X 4512) .. .. .	7	4	
X 1906	For 30-amp. triple pole switch-fuse (X 6067) .. .. .	7	6	
X 1907	For 30-amp. triple pole switch-fuse with neutral connector (X 6067L) .. .. .	7	6	
X 1908	For 30-amp. double pole switch-fuse (X 6065) .. .. .	7	4	
X 1909	For two 30-amp. triple pole switch-fuses (X 6067) .. .. .	11	4	
X 1910	For two 30-amp. triple pole switch-fuses with neutral connectors (X 6067L) .. .. .	11	4	
X 1911	For two 30-amp. double pole switch-fuses (X 6065) .. .. .	11	4	
X 1912	For 30-amp. triple pole switch-fuse (X 6067) and 30-amp. triple pole switch-fuse with neutral connector (X 6067L) .. .. .	11	4	
X 1913	For 30-amp. triple pole switch-fuse (X 6067) and 30-amp. double pole switch-fuse (X 6065) .. .. .	11	4	
X 1914	For 30-amp. triple pole switch-fuse with neutral connector (X 6067L) and 30-amp. double pole switch-fuse (X 6065) .. .. .	11	4	
	<b>Busbars.</b>			
		Per foot		
X 1915	600-amp. $\frac{1}{2}$ in. diameter copper rod .. .. .	3	8	
X 1916	400-amp. $\frac{1}{2}$ in. diameter copper tube .. .. .	2	6	
	<b>Busbar supports</b> (complete with fixing angles and screws) .. .. .	Each		
X 1920	Note: One extra support is required for each complete board.	2	6	



# COMPOSITE UNIT TYPE IRONCLAD SWITCHBOARDS FOR VOLTAGES UP TO 500.

## PRICES OF COMPONENT PARTS

Cat. No.	Description	Price
		£ s. d.
		Per set of four
X 1921	<b>Locating clamps</b> Note : One set of four is required on each busbar.	3 0
	<b>Sweating sockets (clamp type complete with screws).</b> For incoming cables entering at the top or bottom of the busbar chamber.	Each
X 1922	From 0.25 to 0.4 sq. inch .. .. .	5 6
X 1923	From 0.15 to 0.2 sq. inch .. .. .	5 4
	For incoming cables entering at the end of the busbar chamber.	
X 1926	From 0.25 to 0.4 sq. inch .. .. .	5 8
X 1927	From 0.06 to 0.2 sq. inch .. .. .	3 8
	For circuit cables (half clamp type with one clamping screw each).	Per dozen
X 1930	100-amp size for cables up to 0.12 sq. inch ..	12 0
X 1931	60-amp. size for cables up to 0.06 sq. inch ..	8 4
X 1932	30-amp. size for cables up to 0.0225 sq. inch ..	5 6
X 1933	Plain half clamp without sweating socket ..	4 8
X 1934	<b>Jointing clamps</b> (for busbar extensions with screws) .. .. .	Each 4 8

### EXTRAS.

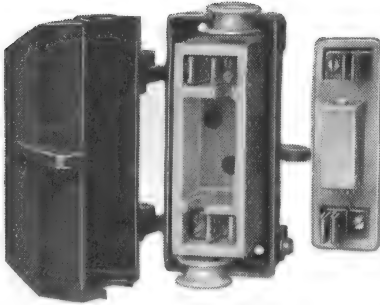
Cat. No.	Description	Extra price each
		£ s. d.
X 1884	<b>Busbar chamber only</b> with one busbar support each .. .. .	2 4 0
	<b>For drilling front plate to accommodate</b>	
	One 6in. dial G.E.C. moving iron voltmeter or ammeter .. .. .	3 8
	Two 6in. dial G.E.C. moving iron voltmeters or ammeters .. .. .	5 0
	Four 4in. dial G.E.C. moving iron voltmeters or ammeters .. .. .	8 0
	One 15-amp. double pole switch-fuse (X 3020) or 15-amp. triple pole switch-fuse (X 3022) ..	6 0
	Two 15-amp. double pole switch-fuses (X 3020) or 15-amp. triple pole switch-fuses (X 3022) ..	7 8
	Three 15-amp. double pole switch-fuses (X 3020) ..	8 8
	<b>For drilling top or bottom plate for :</b>	
	Cable box or bushed holes for v.i.r. cables ..	7 0
	<b>For drilling end plate for :</b>	
	Cable box .. .. .	7 0
	Two bushed holes .. .. .	3 2
	Three bushed holes .. .. .	3 8
	Four bushed holes .. .. .	4 10
	<b>Labels.</b>	Per dozen
	Blank with fixing screws .. .. .	2 9

# IRONCLAD CUT-OUTS

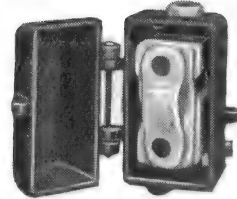
**SINGLE POLE.**

**HOME OFFICE TYPE.**

**For Circuits up to 500 Volts.**



**Y 2054**

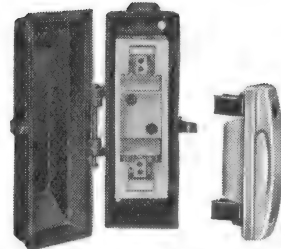


**Y 2049**

An inexpensive range of Home Office type single pole cut-outs. In the 15 amps. size the fuse carrier is that used in the X 3020 on page 329, with the same base contacts; in the 20 and 30 amps. sizes, the base contacts are solid brass blocks of ample area, fitted with headed pinching screws, and are well shrouded by the porcelain walls. The fuse carrier contacts are of hard drawn h.c. copper of suitable form to ensure perfect contact. The fuse wires are threaded through asbestos tubes.

Carrying capacity	Cat. No.	Overall dimensions (approx.)			Length of break	Weight (approx.)		Price each		Spare fuse carriers	
		L.	W.	D.						Price each	
Amps.		Ins.	Ins.	Ins.	Ins.	Lb.	Kilos.	s.	d.	s.	d.
15	Y 2049	3½	3	2½	1½	1½	0.56	<b>2</b>	<b>0</b>	<b>8</b>	
20	Y 2053	5	3½	2½	2½	2	0.9	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>
30	Y 2054	5½	3½	3	2½	3	1.36	<b>3</b>	<b>8</b>	<b>1</b>	<b>4</b>

A very robust form of ironclad cut-out. The fuse carrier contacts are self-aligning solid brass blocks. The base contacts are of hard drawn h.c. copper, with brass terminal blocks, fitted with two pinching screws. The fuse wire passes through an asbestos tube. The ends of the cast-iron cases are tapped for conduit and fitted with screwed insulating bushes.



**Y 2140**

Carrying capacity	Cat. No.	Overall dimensions (approx.)			Length of break	Weight (approx.)		Cases tapped E.T.	Price each		Spare fuse carriers	
		L.	W.	D.							Price each	
Amps.		Ins.	Ins.	Ins.	Ins.	Lb.	Kilos.	In.	s.	d.	s.	d.
30	Y 2140	6½	3	3½	2½	3½	1.59	¾	<b>4</b>	<b>8</b>	<b>1</b>	<b>8</b>
50	Y 2142	8	3½	3½	3	4½	2.04	¾	<b>6</b>	<b>8</b>	<b>2</b>	<b>4</b>
100	Y 2144	8½	4½	4½	3½	7½	3.28	1	<b>9</b>	<b>6</b>	<b>3</b>	<b>6</b>

**Sealing troughs** for use with the above on house services, prices on application.

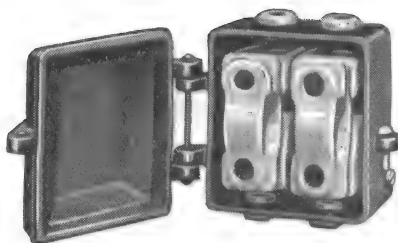
# S.E.C.

## IRONCLAD CUT-OUTS

### DOUBLE POLE.

**For Circuits up to 250 Volts.**

The fuse units in these cut-outs are similar to those used in the Y 2049 and Y 2053/4 on page 359, but enclosed in a single cast iron case, with two holes top and bottom, fitted with insulating bushes.



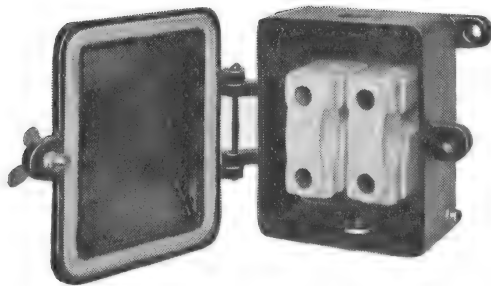
**Y 2189**

### FOR TWIN SERVICES (Two fuses).

Carrying capacity	Catalogue No.	Overall dimensions (approx.)			Length of break	Weight (approx.)		Price each	
		Height	Width	Depth				s.	d.
Amps.		Ins.	Ins.	Ins.	Ins.	Lb.	Kilos.		
15	Y <b>2189</b>	3½	4½	2½	1½	2½	1.02	<b>3</b>	<b>8</b>
20	Y <b>2193</b>	5¼	4½	2½	2½	3½	1.59	<b>5</b>	<b>8</b>
30	Y <b>2195</b>	5½	5	3½	2½	4½	2.04	<b>6</b>	<b>4</b>

### FOR TWIN SERVICES (One fuse, one link).

Carrying capacity	Catalogue No.	Overall dimensions (approx.)			Length of break	Weight (approx.)		Price each	
		Height	Width	Depth				s.	d.
Amps.		Ins.	Ins.	Ins.	Ins.	Lb.	Kilos.		
15	Y <b>2189L</b>	3½	4½	2½	1½	2½	1.02	<b>3</b>	<b>4</b>
20	Y <b>2193L</b>	5¼	4½	2½	2½	3½	1.59	<b>5</b>	<b>4</b>
30	Y <b>2195L</b>	5½	5	3½	2½	4½	2.04	<b>6</b>	<b>0</b>



**Y 2401**

### WEATHERPROOF PATTERN

These cut-outs are specially designed for use in exposed positions and are tapped one hole top and bottom, for direct attachment to conduit or for weatherproof glands X 8322/4/6 (see page 352). External fixing lugs are provided. The fuse units are those used in Y 2049, Y 2054 and Y 2142 on page 359.

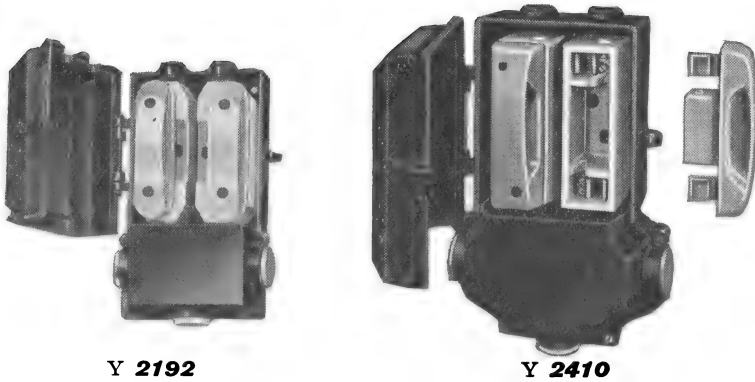
Carrying capacity	Catalogue No.	Overall dimensions (approx.)			Length of break	Weight (approx.)		Case tapped E.T.	Price each	
		Height	Width	Depth					s.	d.
Amps.		Ins.	Ins.	Ins.	Ins.	Lb.	Kilos.	Ins.		
15	Y <b>2401</b>	4½	5	3	1½	4	1.8	¾	<b>6</b>	<b>0</b>
30	Y <b>2403</b>	6½	6	3½	2½	7	3.2	1	<b>8</b>	<b>4</b>
50	Y <b>2405</b>	9½	6½	3½	3	11	5	1½	<b>15</b>	<b>8</b>

**Weatherproof cut-outs with galvanized cases (undrilled), 15% extra.**



# IRONCLAD CUT-OUTS

## DOUBLE POLE.



**Y 2192**

**Y 2410**

This range of house service cut-outs consists of two Home Office pattern fuse units as used in Y 2053/4 and Y 2142 single pole cut-outs (see page 359) enclosed in one cast-iron box with combined sealing trough with three alternative cable entries.

The stock patterns are suitable for twin services, but fittings suitable for concentric cables either for bottom or side entry, also busbar fittings for converting to two-way single pole splitter units can be provided at a small extra charge.

### FOR TWIN SERVICES (Two fuses).

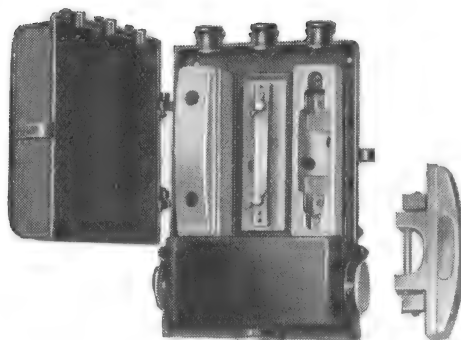
Carrying capacity	Catalogue No.	Overall dimensions (approx.)			Length of break	Weight (approx.)		Price each	
		Length	Width	Depth		Lb.	Kilos.	s.	d.
Amps.		Ins.	Ins.	Ins.	Ins.	Lb.	Kilos.	s.	d.
15	Y <b>2190</b>	6½	4½	2½	1½	3	1.36	5	10
20	Y <b>2192</b>	7½	5	2½	2½	4½	2.04	6	4
30	Y <b>2410</b>	8½	5¾	3¼	2½	6½	2.94	6	8
50	Y <b>2414</b>	11	6	3½	3	8½	3.98	13	0

### FOR TWIN SERVICES (One fuse, one link).

Carrying capacity	Catalogue No.	Overall dimensions (approx.)			Length of break	Weight (approx.)		Price each	
		Length	Width	Depth		Lb.	Kilos.	s.	d.
Amps.		Ins.	Ins.	Ins.	Ins.	Lb.	Kilos.	s.	d.
15	Y <b>2190L</b>	6½	4½	2½	1½	3	1.36	5	8
20	Y <b>2192L</b>	7½	5	2½	2½	4½	2.04	6	0
30	Y <b>2410L</b>	8½	5¾	3¼	2½	6½	2.94	6	4
50	Y <b>2414L</b>	11	6	3½	3	8½	3.98	12	2

## IRONCLAD CUT-OUTS

THREE AND FOUR POLE.



Y 2430

The above cut-out sets are similar in construction to the double pole form, on page 361. The stock patterns consist of two Home Office fuse units and one neutral link, and three fuses and one link for three-wire and four-wire services respectively. They can also be supplied with all fuse units or with busbar fittings to convert to single pole multi-way sets at a small extra charge.

### FOR THREE-WIRE SERVICES (Two fuses, one link).

Carrying capacity	Cat. No.	Overall dimensions (approx.)			Length of break	Weight (approx.)		Price each		
		Length	Width	Depth						
Amps.		Ins.	Ins.	Ins.	Ins.	Lb.	Kilos.	£	s.	d.
30	Y 2428	11½	9¼	4	2½	10¾	4.86	11	2	
50	Y 2430	11¼	8¼	3¾	3	12	5.44	17	4	
100	Y 2432	13¾	11½	4½	3¾	19	8.22	1	11	10

### FOR FOUR-WIRE SERVICES (Three fuses, one link).

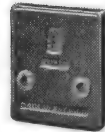
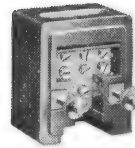
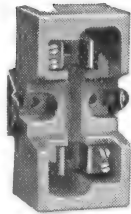
Carrying capacity	Cat. No.	Overall dimensions (approx.)			Length of break	Weight (approx.)		Price each		
		Length	Width	Depth						
Amps.		Ins.	Ins.	Ins.	Ins.	Lb.	Kilos.	£	s.	d.
30	Y 2438	11½	9½	3½	2½	15	6.8	15	0	
50	Y 2440	11¾	10¼	3¾	3	16½	7.48	1	7	4
100	Y 2442	14½	14	4½	3¾	28½	12.9	2	7	4

# ALL-INSULATED IRONCLAD SERVICE CUT-OUTS

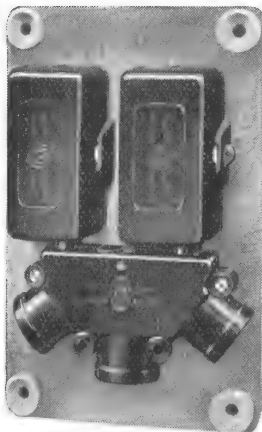
**30 Amp.**



**Y 2330**



**Y 2336**



**Y 2332**



**Y 2334**

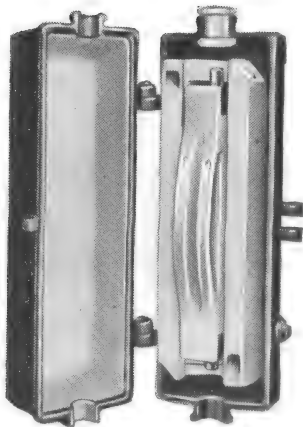
The Fuse Units, Y 2330, are of the porcelain enclosed type, with Bakelite cover secured by a spring clip and can be sealed. The terminals of the units are suitable for looping. The fuse wire passes through an asbestos tube held in position by the spring contact clips on the holder. These fuse units comply fully with B.S.S. No. 88 (1931).

The Bakelite Sealing Trough, Y 2334, is in two parts and has three alternative cable entries.

Double Pole Sets, Y 2332, are available consisting of two fuse units and a sealing trough mounted on a plywood backboard complete with corner insulators ; or Y 2332L with one fuse, one link.

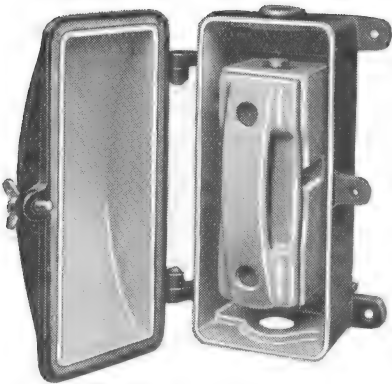
The Neutral Links, Y2336, consist of a brass block enclosed in a brown porcelain body with single entry one end and three entries at the other.

Cat. No.	Description	Price each	
Y 2330	30 amp. S.P. All-Insulated Fuse Unit .. .. .	s.	d.
Y 2332	Two 30 amp. D.P. All-Insulated Fuses, Sealing Trough and Base .. .. .	2	4
Y 2332L	D.P. All-Insulated Fuses, as above but with one fuse and one link .. .. .	7	0
Y 2334	All-Insulated Sealing Troughs .. .. .	6	4
Y 2336	All-Insulated Neutral Links .. .. .	1	6
		1	8

**S.E.C.****IRONCLAD CUT-OUTS****Y 2033****SINGLE POLE.****For Circuits up to 600 Volts.**

The interior of these cut-outs, which have been specially designed for use on circuits up to 600 volts, consists (in all sizes up to and including 100 amperes) of a detachable china handle, with heavy spring clip contacts; these engage with substantial brass terminal blocks deeply recessed into a china base with protecting side walls. In the 200 and 300 amps. sizes handguard cut-outs are used as in the stepped type boards on page 349, but in each case the fuses have a clear break of 6 inches.

Carrying capacity	Catalogue No.	Overall dimensions			Length of break	Weight (approx.)		Price each		
		Length	Width	Depth		Lb.	Kilos.	£	s.	d.
Amps.		Ins.	Ins.	Ins.	Ins.	Lb.	Kilos.	£	s.	d.
30	Y 2033	11½	5	3½	6	7½	3.46	10	4	
50	Y 2035	12½	5	3½	6	9½	4.32	16	4	
100	Y 2037	14½	6½	4½	6	17	7.72	1	7	4
200	Y 2039	17	7½	6½	6	30	13.65	2	16	4
300	Y 2076	21½	8½	7½	6	42	19.1	4	11	0

**Y 2346****HOME OFFICE WATERTIGHT PATTERN****For Circuits up to 600 Volts.**

Up to and including the 200 amps. size the fuse units are enclosed china unit pattern; the larger sizes are standard handguard cut-outs, as used in stepped type boards on page 349. The fuses are enclosed in substantial cast-iron watertight cases with wing nut fastenings and a hemp gasket fitted between the lid and the case. External fixing lugs are provided and the case is drilled one hole each end, fitted with hardwood bushes. Weatherproof glands can be supplied at an extra charge (see page 352).

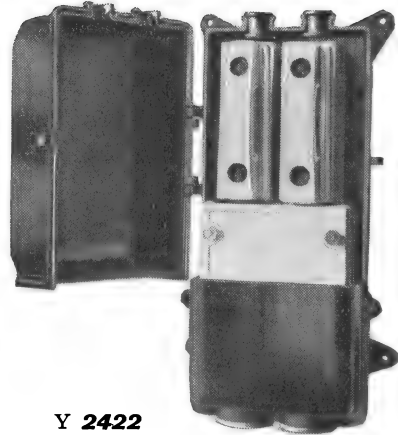
Carrying capacity	Catalogue No.	Overall dimensions			Length of break	Weight (approx.)		Price each		
		Length	Width	Depth		Lb.	Kilos.	£	s.	d.
Amps.		Ins.	Ins.	Ins.	Ins.	Lb.	Kilos.	£	s.	d.
10/20	Y 2055*	6½	3½	2½	2½	5½	2.5	5	6	
20	Y 2340	9½	3½	3½	2½	7	3.15	15	4	
30	Y 2342	11½	3½	3½	3	8½	3.94	17	0	
50	Y 2344	13	4	4½	3½	13½	6.07	18	4	
100	Y 2346	11½	6½	5½	4	18½	8.44	1	13	8
200	Y 2348	16	6½	7	4½	24	10.88	2	17	8
300	Y 2353	19½	9	8	4½	63	28.35	4	10	0
400	Y 2354	22	10	9	4½	85	38.25	5	8	0

\*NOTE.—Y 2055, 10/20 amps. is only suitable up to 500 volts.

## IRONCLAD CUT-OUTS

### DOUBLE POLE LOOP-IN DISCONNECTING TYPE

These cut-outs are specially useful when it is desired to run only one underground service cable to a row of dwelling houses, the main cable can then be looped from house to house, and should it be desired to disconnect any individual service this can be done by detaching the links, without disturbing the continuity of the main supply. They consist of two Y 2054 type fuse units, each connected at one end through removable links to two terminals to which the main cables are connected.

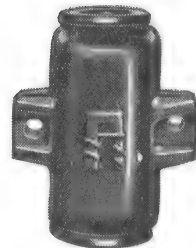


**Y 2422**

Carrying capacity	Catalogue No.	Overall dimensions (approx.)			Weight (approx.)		Price each		
		Height	Width	Depth					
Amps. 30	<b>Y 2422</b>	Ins. 12	Ins. 6 $\frac{3}{8}$	Ins. 3 $\frac{7}{8}$	Lb. 10 $\frac{1}{2}$	Kilos. 4.88	£ 1	s. 2	d. 4

## NEUTRAL CONNECTORS

These connectors provide an efficient and economical method of linking up the neutral conductor on three or four-wire services, etc., when used in conjunction with single pole service fuses mounted on a backboard. They also have a variety of other uses. The case is of cast-iron, and the interior consists of a substantial brass connector with four clamping screws. The connector is mounted on a base of insulating material with fixed inlet and outlet bushes. They are packed in boxes of one dozen, complete with fixing screws.



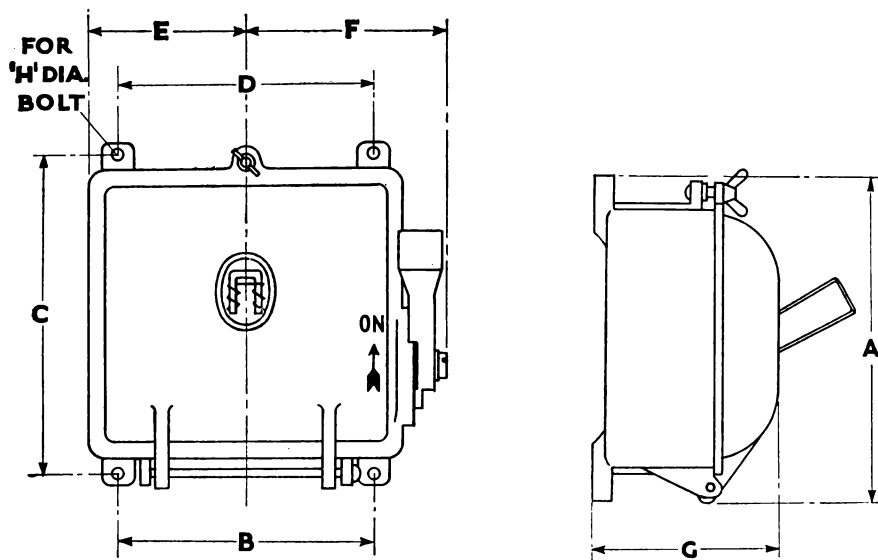
**Y 2052**

Capacity	Cat. No.	Overall dimensions (approx.)			Weight (approx.)		Price per doz.		
		Length	Width	Depth					
Up to 25 Amps.	<b>Y 2052</b>	Ins. 2 $\frac{3}{8}$	Ins. 1 $\frac{1}{8}$	Ins. 1 $\frac{1}{8}$	Lb. $\frac{7}{16}$	Kilos. 0.2	£ 1	s. 4	d. 0

## IRONCLAD SWITCHGEAR

### " D.B. " SWITCHES

#### DIMENSIONS.



#### Double pole.

Capacity	Cat. No.	A	B	C	D	E	F	G	H
Amps.		Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.
30	X <b>6071</b>	6½	5⅝	5 ⅞ <sub>16</sub>	5⅝	3½	4⅛	4⅛	½
60	X <b>4402</b>	9	6⅝	7¾	6⅝	3¾	4¼	4¾	½
100	X <b>4505</b>	16	11¼	14 ⅜ <sub>16</sub>	11¼	6 ⅞ <sub>16</sub>	6½	6½	¾

#### Triple pole.

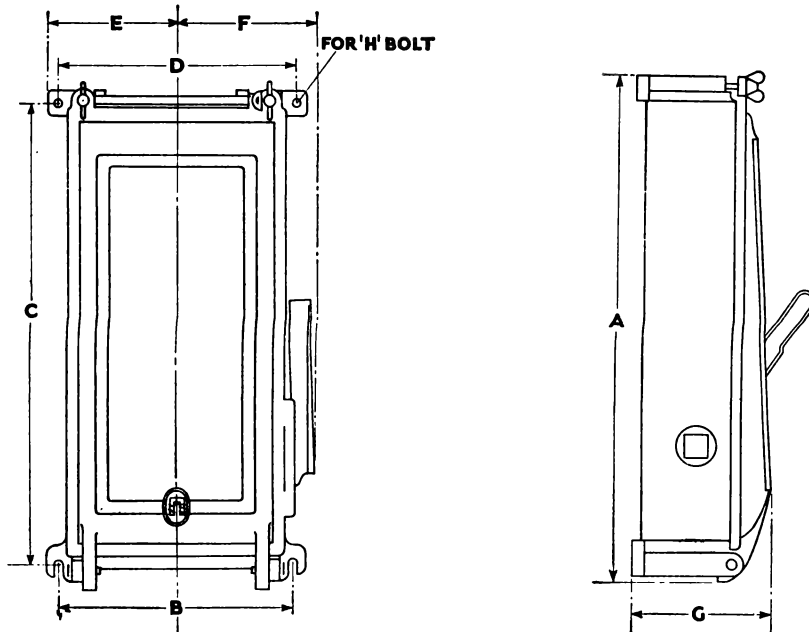
Capacity	Cat. No.	A	B	C	D	E	F	G	H
Amps.		Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.
30	X <b>6073</b>	6½	7¾	5 ⅞ <sub>16</sub>	7¾	4⅛	5½	4⅛	½
60	X <b>4422</b>	9½	9½	8½	9½	5⅝	5⅝	4¾	½
100	X <b>4525</b>	16	14 ⅞ <sub>16</sub>	14 ⅜ <sub>16</sub>	14 ⅞ <sub>16</sub>	8	8½	6½	¾

NOTE :—Although every care has been taken in compiling these dimensions no responsibility can be entertained for inaccuracies or consequential damages.

# IRONCLAD SWITCHGEAR

## "D.B." SWITCHES WITH FUSES

### DIMENSIONS.



**Double pole.**

Capacity	Cat. No.	A	B	C	D	E	F	G	H
Amps.		Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.
20	X <b>3011</b>	10 $\frac{1}{2}$	3 $\frac{1}{2}$	7	3 $\frac{1}{2}$	2 $\frac{9}{16}$	3 $\frac{9}{16}$	3 $\frac{1}{2}$	1 $\frac{1}{4}$
30	X <b>6065</b>	8 $\frac{3}{16}$	—	7	3 $\frac{9}{16}$	2 $\frac{11}{16}$	4	3 $\frac{7}{8}$	1 $\frac{1}{4}$
30	X <b>6085</b>	12 $\frac{3}{8}$	5 $\frac{1}{2}$	11 $\frac{1}{2}$	5 $\frac{1}{2}$	3 $\frac{1}{2}$	4 $\frac{1}{2}$	4 $\frac{3}{8}$	1 $\frac{1}{4}$
60	X <b>4512</b>	17 $\frac{1}{2}$	9	14	9	5 $\frac{9}{16}$	5 $\frac{9}{16}$	6 $\frac{3}{8}$	1 $\frac{5}{16}$
60	X <b>4514</b>	14 $\frac{3}{16}$	6 $\frac{3}{8}$	18 $\frac{3}{8}$	6 $\frac{3}{8}$	4 $\frac{3}{8}$	5 $\frac{11}{16}$	5 $\frac{11}{16}$	1 $\frac{5}{16}$
100	X <b>4515</b>	24 $\frac{3}{16}$	11 $\frac{1}{2}$	22 $\frac{7}{16}$	11 $\frac{1}{2}$	6 $\frac{1}{8}$	6 $\frac{1}{8}$	6 $\frac{1}{2}$	1 $\frac{3}{8}$
100	X <b>4513</b>	19 $\frac{1}{4}$	11 $\frac{1}{8}$	17	11 $\frac{1}{8}$	6 $\frac{3}{16}$	6 $\frac{3}{16}$	6 $\frac{1}{2}$	1 $\frac{3}{8}$
150	X <b>4415</b>	20	11 $\frac{1}{8}$	9 $\frac{7}{8}$	11 $\frac{1}{8}$	6 $\frac{1}{2}$	7 $\frac{1}{2}$	7 $\frac{1}{2}$	1 $\frac{1}{2}$

**Triple pole.**

Capacity	Cat. No.	A	B	C	D	E	F	G	H
Amps.		Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.
20	X <b>3013</b>	10 $\frac{1}{2}$	5 $\frac{1}{4}$	7	5 $\frac{1}{4}$	3 $\frac{9}{16}$	4 $\frac{9}{16}$	3 $\frac{1}{2}$	1 $\frac{1}{4}$
30	X <b>6067</b>	8 $\frac{3}{16}$	—	7	5 $\frac{1}{8}$	3 $\frac{3}{8}$	5 $\frac{1}{8}$	3 $\frac{3}{8}$	1 $\frac{1}{4}$
30	X <b>6087</b>	13 $\frac{1}{2}$	8	12 $\frac{1}{2}$	8	4 $\frac{1}{2}$	5 $\frac{1}{2}$	4 $\frac{3}{8}$	1 $\frac{1}{4}$
60	X <b>4532</b>	17 $\frac{1}{2}$	12 $\frac{3}{8}$	14	12 $\frac{3}{8}$	6 $\frac{7}{8}$	7 $\frac{3}{8}$	6 $\frac{1}{2}$	1 $\frac{5}{16}$
60	X <b>4534</b>	14 $\frac{3}{16}$	—	13 $\frac{3}{8}$	9 $\frac{1}{2}$	6 $\frac{3}{8}$	7 $\frac{3}{8}$	5 $\frac{11}{16}$	1 $\frac{5}{16}$
100	X <b>4535</b>	24 $\frac{3}{16}$	14 $\frac{1}{8}$	22 $\frac{7}{16}$	14 $\frac{1}{8}$	8 $\frac{1}{8}$	8 $\frac{1}{8}$	6 $\frac{1}{2}$	1 $\frac{3}{8}$
100	X <b>4533</b>	19 $\frac{1}{4}$	15 $\frac{9}{16}$	17	15 $\frac{9}{16}$	8 $\frac{3}{8}$	9	6 $\frac{1}{2}$	1 $\frac{3}{8}$
150	X <b>4435</b>	20	15 $\frac{1}{8}$	9 $\frac{7}{8}$	15 $\frac{1}{8}$	8 $\frac{1}{2}$	9 $\frac{3}{8}$	7 $\frac{1}{2}$	1 $\frac{1}{2}$

**Triple pole switches with fuses and neutral links.**—Dimensions as for triple pole switches with fuses (given above), except in 30-amp. size, Cat. No. X6067L, where D=6 $\frac{1}{8}$ in., E=4 $\frac{1}{8}$ in., and F=5 $\frac{1}{8}$ in.

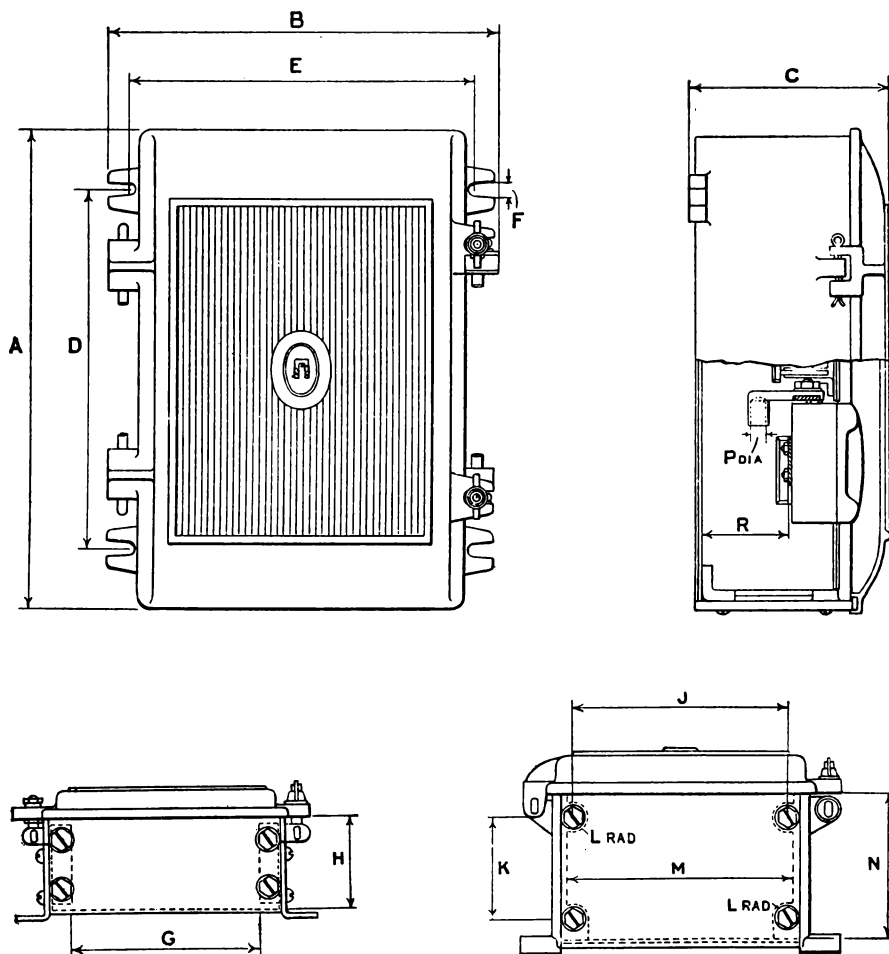
# **S.E.C.**

## **IRONCLAD FUSEBOARDS**

**CHINA UNIT TYPE.**

**For Circuits up to 500 Volts.**

### **DIMENSION DIAGRAMS.**



*For dimensions see following page.*

*NOTE :—Although every care has been taken in compiling these dimensions,  
no responsibility can be entertained for inaccuracies or consequential damages.*



# IRONCLAD FUSEBOARDS

**CHINA UNIT TYPE.**

### DIMENSIONS.

Type	No. of ways	Capacity	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	
Double pole	2	Amps. 20 30 60 100	Ins. 20 13 1/2 30 15 1/2 60 18 1/2 100 27 1/2	Ins. 6 1/2 9 1/2 14 1/2	Ins. 4 1/2 6 1/2 9 1/2	Ins. 12 1/2 13 1/2 21	Ins. 6 1/2 8 1/2 12 1/2	Ins. 6 1/2 9 1/2 14 1/2	Ins. 3 1/2 — —	Ins. 3 1/2 — —	Ins. 3 1/2 — —	Ins. 6 1/2 10 1/2	Ins. 3 1/2 4 1/2 5 1/2	Ins. — — —	Ins. 6 1/2 10 1/2	Ins. 5 1/2 7	Ins. — — —	Ins. 1 1/2 3 1/2 3 1/2
	3	20 30 60 100	13 1/2 15 1/2 18 1/2 27 1/2	8 1/2 9 1/2 14 1/2 21	4 1/2 6 1/2 9 1/2	12 1/2 13 1/2 21	7 1/2 8 1/2 12 1/2	9 1/2 14 1/2 21	6 1/2 — —	5 1/2 — —	3 1/2 — —	6 1/2 10 1/2	3 1/2 4 1/2 5 1/2	— — —	6 1/2 10 1/2	5 1/2 7	1 1/2 3 1/2 3 1/2	1 1/2 3 1/2 3 1/2
	4	20 30 60 100	13 1/2 15 1/2 18 1/2 27 1/2	9 1/2 11 11 17 1/2	4 1/2 6 1/2 9 1/2	12 1/2 13 1/2 21	9 1/2 10 15 1/2	9 1/2 14 1/2 21	6 1/2 — —	3 1/2 — —	3 1/2 — —	7 1/2 13 1/2	3 1/2 4 1/2 5 1/2	— — —	7 1/2 14	5 1/2 7	1 1/2 3 1/2 3 1/2	1 1/2 3 1/2 3 1/2
	5	20 30 60 100	13 1/2 15 1/2 18 1/2 27 1/2	11 1/2 14 1/2 14 1/2 23 1/2	4 1/2 6 1/2 9 1/2	12 1/2 13 1/2 21	11 13 13 22 1/2	9 1/2 14 1/2 21	8 1/2 — —	3 1/2 — —	3 1/2 — —	10 1/2 19 1/2	3 1/2 4 1/2 5 1/2	— — —	11 1/2 20 1/2	5 1/2 7	— — —	1 1/2 3 1/2 3 1/2
	6	20 30 60 100	13 1/2 15 1/2 18 1/2 27 1/2	12 1/2 14 1/2 14 1/2 23 1/2	4 1/2 6 1/2 9 1/2	12 1/2 13 1/2 21	12 1/2 13 13 22 1/2	9 1/2 14 1/2 21	9 1/2 — —	3 1/2 — —	3 1/2 — —	10 1/2 19 1/2	3 1/2 4 1/2 5 1/2	— — —	11 1/2 20 1/2	5 1/2 7	1 1/2 3 1/2 3 1/2	1 1/2 3 1/2 3 1/2
	8	20 30 60 100	13 1/2 15 1/2 18 1/2 27 1/2	16 1/2 17 1/2 30	5 1/2 6 1/2 9 1/2	10 1/2 12 13 21	15 1/2 16 1/2 18 27 1/2	9 1/2 14 1/2 21	— — —	— — —	— — —	13 1/2 14 15 26 1/2	3 1/2 3 1/2 4 5 1/2	— — —	13 20 1/2	4 1/2 5 1/2 7	1 1/2 3 1/2 3 1/2	2 1/2 3 1/2 3 1/2
	10	20 30	13 1/2 15 1/2	19 1/2 20 1/2	5 1/2 6 1/2	10 1/2 12	18 1/2 19 1/2	9 1/2 14 1/2 21	— — —	— — —	— — —	16 1/2 17 1/2	3 1/2 3 1/2	— — —	16 1/2 17 1/2	4 1/2 5 1/2	1 1/2 3 1/2 3 1/2	2 1/2 3 1/2 3 1/2
	12	20 30	13 1/2 24	22 1/2 5 1/2	5 1/2 6 1/2	10 1/2 12	21 1/2 22 1/2	9 1/2 14 1/2 21	— — —	— — —	— — —	19 1/2 20 1/2	3 1/2 3 1/2	— — —	19 1/2 20 1/2	4 1/2 5 1/2	1 1/2 3 1/2 3 1/2	2 1/2 3 1/2 3 1/2
Triple pole	2	20 30 60 100	20 1/2 23 1/2 27 1/2 39 1/2	6 1/2 11 6 1/2 14 1/2	4 1/2 6 1/2 9 1/2	18 1/2 19 22 1/2 33	6 1/2 9 1/2 10 12 1/2	6 1/2 9 1/2 14 1/2	3 1/2 — —	3 1/2 — —	— 7 1/2 10 1/2	— 3 1/2 4 1/2 5 1/2	— — —	— 7 1/2 10 1/2	— 7 1/2 10 1/2	— 5 1/2 7	— — —	1 1/2 3 1/2 3 1/2
	3	20 30 60 100	20 1/2 23 1/2 27 1/2 39 1/2	8 1/2 11 11 14 1/2	4 1/2 6 1/2 9 1/2	18 1/2 19 22 1/2 33	7 1/2 9 1/2 10 12 1/2	6 1/2 9 1/2 14 1/2	5 1/2 — —	3 1/2 — —	3 1/2 — —	7 1/2 10 1/2	— 3 1/2 4 1/2 5 1/2	— — —	7 1/2 10 1/2	— 5 1/2 7	1 1/2 3 1/2 3 1/2	1 1/2 3 1/2 3 1/2
	4	20 30 60 100	20 1/2 23 1/2 27 1/2 39 1/2	9 1/2 11 11 17 1/2	4 1/2 6 1/2 9 1/2	18 1/2 19 22 1/2 33	9 1/2 9 1/2 10 15 1/2	6 1/2 9 1/2 14 1/2	6 1/2 — —	3 1/2 — —	3 1/2 — —	7 1/2 13 1/2	— 3 1/2 4 1/2 5 1/2	— — —	7 1/2 14	— 5 1/2 7	1 1/2 3 1/2 3 1/2	1 1/2 3 1/2 3 1/2
	5	20 30 60 100	20 1/2 23 1/2 27 1/2 39 1/2	11 1/2 14 1/2 14 1/2 23 1/2	4 1/2 6 1/2 9 1/2	18 1/2 19 22 1/2 33	11 13 13 22 1/2	6 1/2 9 1/2 14 1/2	8 1/2 — —	3 1/2 — —	3 1/2 — —	10 1/2 19 1/2	— 3 1/2 4 1/2 5 1/2	— — —	11 1/2 20 1/2	— 5 1/2 7	— — —	1 1/2 3 1/2 3 1/2
	6	20 30 60 100	20 1/2 23 1/2 27 1/2 39 1/2	12 1/2 14 1/2 14 1/2 23 1/2	4 1/2 6 1/2 9 1/2	18 1/2 19 22 1/2 33	12 1/2 13 13 22 1/2	6 1/2 9 1/2 14 1/2	9 1/2 — —	3 1/2 — —	3 1/2 — —	10 1/2 19 1/2	— 3 1/2 4 1/2 5 1/2	— — —	11 1/2 20 1/2	— 5 1/2 7	1 1/2 3 1/2 3 1/2	1 1/2 3 1/2 3 1/2
	8	20 30 60 100	20 1/2 23 1/2 27 1/2 39 1/2	16 1/2 17 1/2 30	5 1/2 6 1/2 9 1/2	17 1/2 19 22 1/2 33	15 1/2 16 1/2 17 1/2 28 1/2	9 1/2 14 1/2 21	— — —	— — —	— — —	13 1/2 14 15 26 1/2	3 1/2 3 1/2 4 5 1/2	— — —	13 20 1/2	4 1/2 5 1/2 7	1 1/2 3 1/2 3 1/2	2 1/2 3 1/2 3 1/2
	10	20 30	20 1/2 23 1/2	19 1/2 20 1/2	5 1/2 6 1/2	17 1/2 19	18 1/2 19 1/2	9 1/2 14 1/2 21	— — —	— — —	— — —	16 1/2 17 1/2	3 1/2 3 1/2	— — —	16 1/2 17 1/2	4 1/2 5 1/2	1 1/2 3 1/2 3 1/2	2 1/2 3 1/2 3 1/2
	12	20 30	20 1/2 23 1/2	22 1/2 24	5 1/2 6 1/2	17 1/2 19	21 1/2 22 1/2	9 1/2 14 1/2 21	— — —	— — —	— — —	19 1/2 20 1/2	3 1/2 3 1/2	— — —	19 1/2 20 1/2	4 1/2 5 1/2	1 1/2 3 1/2 3 1/2	2 1/2 3 1/2 3 1/2

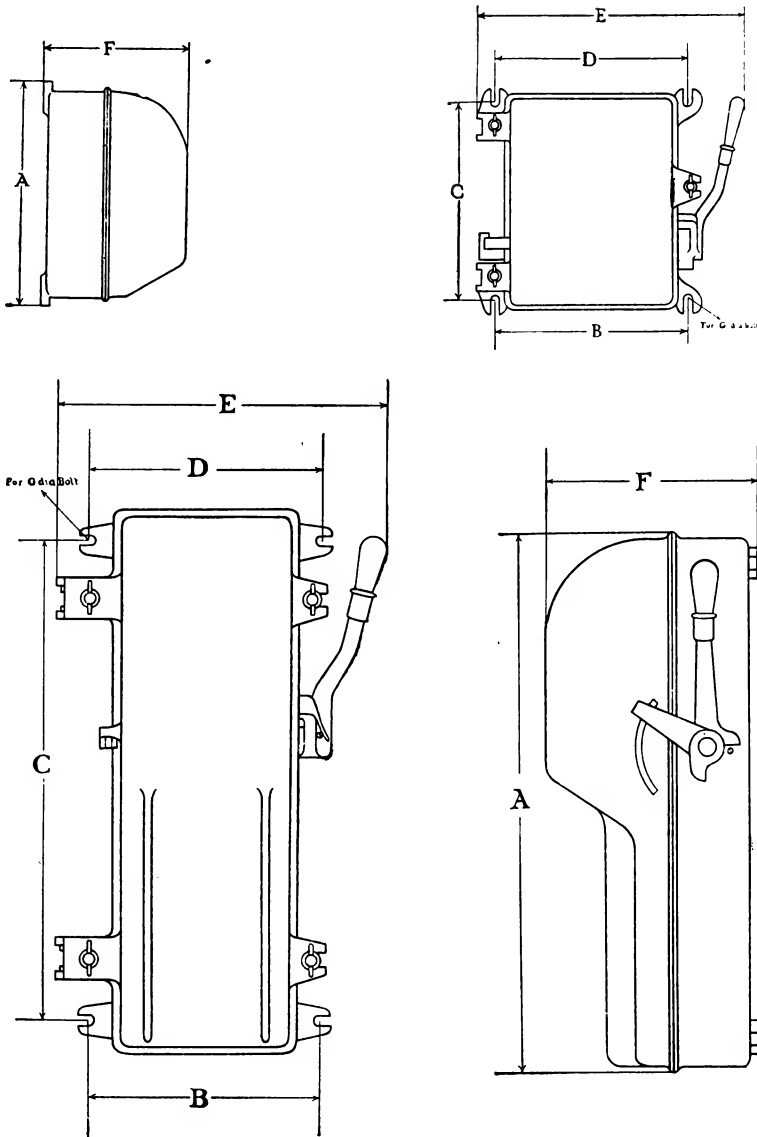
Dimensions of triple pole boards with neutral busbars are the same as those of the triple pole.

*NOTE :—Although every care has been taken in compiling these dimensions, no responsibility can be entertained for inaccuracies or consequential damages.*

**S.E.C.**

## **"SALFORD" IRONCLAD SWITCHES AND SWITCHES WITH FUSES**

### **DIMENSION DIAGRAMS.**



*For dimensions see following page.*

*NOTE :—Although every care has been taken in compiling these dimensions, no responsibility can be entertained for inaccuracies or consequential damages.*

# "SALFORD" IRONCLAD SWITCHES AND SWITCHES WITH FUSES

## DIMENSIONS.

### SWITCH ONLY.

Capacity	Cat. No.	A	B	C	D	E	F	G
Amps.		Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.
50 D.P.	X <b>6204</b>	11 $\frac{1}{2}$	7 $\frac{1}{2}$	7 $\frac{1}{2}$	7 $\frac{1}{2}$	8 $\frac{1}{2}$	9	$\frac{1}{2}$
50 T.P.	X <b>6224</b>	11	10 $\frac{1}{2}$	7 $\frac{1}{2}$	10 $\frac{1}{2}$	11 $\frac{1}{2}$	9 $\frac{1}{2}$	$\frac{1}{2}$
75 D.P.	X <b>6204A</b>	11	9 $\frac{5}{8}$	10	9 $\frac{5}{8}$	13	7 $\frac{1}{2}$	$\frac{1}{2}$
75 T.P.	X <b>6224A</b>	11	12 $\frac{1}{2}$	10	12 $\frac{1}{2}$	16 $\frac{1}{2}$	7 $\frac{1}{2}$	$\frac{1}{2}$
100 D.P.	X <b>6205</b>	13 $\frac{1}{2}$	9 $\frac{1}{2}$	12 $\frac{1}{2}$	9 $\frac{1}{2}$	14	9 $\frac{1}{2}$	$\frac{1}{2}$
100 T.P.	X <b>6225</b>	13 $\frac{1}{2}$	12 $\frac{1}{2}$	12 $\frac{1}{2}$	12 $\frac{1}{2}$	16 $\frac{1}{2}$	9 $\frac{1}{2}$	$\frac{1}{2}$
150 D.P.	X <b>6205A</b>	14 $\frac{1}{2}$	10 $\frac{1}{2}$	12 $\frac{1}{2}$	10 $\frac{1}{2}$	14 $\frac{1}{2}$	9 $\frac{1}{2}$	$\frac{1}{2}$
150 T.P.	X <b>6225A</b>	14 $\frac{1}{2}$	14 $\frac{1}{2}$	12 $\frac{1}{2}$	14 $\frac{1}{2}$	16 $\frac{1}{2}$	9 $\frac{1}{2}$	$\frac{1}{2}$
200 D.P.	X <b>6206</b>	15 $\frac{1}{2}$	11	13 $\frac{7}{8}$	11	15	11 $\frac{1}{2}$	$\frac{1}{2}$
200 T.P.	X <b>6226</b>	15 $\frac{1}{2}$	14 $\frac{1}{2}$	13 $\frac{7}{8}$	14 $\frac{1}{2}$	19 $\frac{1}{2}$	11 $\frac{1}{2}$	$\frac{1}{2}$
300 D.P.	X <b>6372</b>	21 $\frac{1}{2}$	13 $\frac{1}{2}$	17	13 $\frac{1}{2}$	19 $\frac{1}{2}$	13 $\frac{1}{2}$	$\frac{1}{2}$
300 T.P.	X <b>6374</b>	21 $\frac{1}{2}$	17 $\frac{1}{8}$	17	17 $\frac{1}{8}$	23 $\frac{1}{2}$	13 $\frac{1}{2}$	$\frac{1}{2}$
400 D.P.	X <b>6368</b>	23 $\frac{1}{2}$	16 $\frac{1}{2}$	18	16 $\frac{1}{2}$	21	15 $\frac{1}{2}$	$\frac{1}{2}$

### SWITCH WITH FUSES.

Capacity	Cat. No.	A	B	C*	D	E	F	G
Amps.		Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.
50 D.P.	X <b>6214</b>	17 $\frac{1}{2}$	7 $\frac{1}{2}$	15 $\frac{1}{2}$	7 $\frac{1}{2}$	12 $\frac{1}{2}$	6 $\frac{1}{2}$	$\frac{1}{2}$
50 T.P.	X <b>6234</b>	17 $\frac{1}{2}$	10 $\frac{1}{2}$	15 $\frac{1}{2}$	10 $\frac{1}{2}$	15 $\frac{1}{2}$	6 $\frac{1}{2}$	$\frac{1}{2}$
75 D.P.	X <b>6214A</b>	19 $\frac{1}{2}$	8 $\frac{1}{2}$	16 $\frac{7}{8}$	8 $\frac{1}{2}$	13 $\frac{1}{2}$	7 $\frac{1}{2}$	$\frac{1}{2}$
75 T.P.	X <b>6234A</b>	19 $\frac{1}{2}$	11 $\frac{1}{2}$	16 $\frac{7}{8}$	11 $\frac{1}{2}$	16 $\frac{1}{2}$	7 $\frac{1}{2}$	$\frac{1}{2}$
100 D.P.	X <b>6215</b>	24 $\frac{1}{2}$	9 $\frac{1}{2}$	19 $\frac{1}{2}$	9 $\frac{1}{2}$	13 $\frac{1}{2}$	9 $\frac{1}{2}$	$\frac{1}{2}$
100 T.P.	X <b>6235</b>	24 $\frac{1}{2}$	12 $\frac{1}{2}$	19 $\frac{1}{2}$	12 $\frac{1}{2}$	16 $\frac{1}{2}$	9 $\frac{1}{2}$	$\frac{1}{2}$
150 D.P.	X <b>6215A</b>	25 $\frac{7}{8}$	10 $\frac{1}{2}$	20	10 $\frac{1}{2}$	14 $\frac{7}{8}$	9 $\frac{1}{2}$	$\frac{1}{2}$
150 T.P.	X <b>6235A</b>	25 $\frac{7}{8}$	14 $\frac{1}{2}$	20	14 $\frac{1}{2}$	18 $\frac{1}{2}$	9 $\frac{1}{2}$	$\frac{1}{2}$
200 D.P.	X <b>6216</b>	28	11	23 $\frac{1}{2}$	11	16 $\frac{1}{2}$	11 $\frac{1}{2}$	$\frac{1}{2}$
200 T.P.	X <b>6236</b>	28	14 $\frac{1}{2}$	23 $\frac{1}{2}$	14 $\frac{1}{2}$	19 $\frac{1}{2}$	11 $\frac{1}{2}$	$\frac{1}{2}$
300 D.P.	X <b>6373</b>	42 $\frac{1}{2}$	13 $\frac{1}{2}$	30	13 $\frac{1}{2}$	18 $\frac{1}{2}$	13 $\frac{1}{2}$	$\frac{1}{2}$
300 T.P.	X <b>6375</b>	42 $\frac{1}{2}$	18	30	18	23 $\frac{1}{2}$	13 $\frac{1}{2}$	$\frac{1}{2}$
400 D.P.	X <b>6385</b>	49	16 $\frac{1}{2}$	32	16 $\frac{1}{2}$	21 $\frac{1}{2}$	15 $\frac{1}{2}$	$\frac{1}{2}$

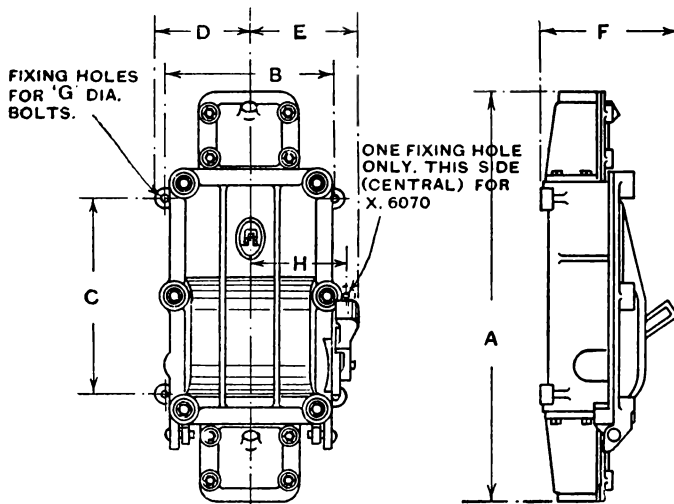
\* 300 and 400 amps. sizes have also one additional bolt hole  
midway on each side.

NOTE:—Although every care has been taken in completing the above dimensions,  
no responsibility can be entertained for inaccuracies or consequential damages.

# G.E.C.

## FLAME-PROOF IRONCLAD SWITCHES WITH FUSES

### DIMENSIONS.



Weights (approx.), X**6070**, 29½ lb. ; X**6074**, 52½ lb. ;  
X**6076**, 73 lb.

Cat. No.	A	B	C	D	E	F	G	H
	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.
X <b>6070</b>	16 <sup>5</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>	3 <sup>13</sup> / <sub>16</sub>	4 <sup>3</sup> / <sub>16</sub>	5 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>8</sub>
X <b>6072</b>	16 <sup>5</sup> / <sub>16</sub>	8 <sup>1</sup> / <sub>8</sub>	6	4 <sup>7</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>8</sub>	5 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	—
X <b>6074</b>	20 <sup>13</sup> / <sub>16</sub>	8 <sup>5</sup> / <sub>8</sub>	10	4 <sup>13</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>2</sub>	7	1 <sup>3</sup> / <sub>8</sub>	—
X <b>6076</b>	22 <sup>5</sup> / <sub>16</sub>	11 <sup>1</sup> / <sub>8</sub>	10	6 <sup>1</sup> / <sub>16</sub>	6 <sup>1</sup> / <sub>2</sub>	7	1 <sup>3</sup> / <sub>8</sub>	—

### FUSE WIRING TABLE

The table below gives the sizes of fuse wires for varying capacities, which are recommended for use in the G.E.C. fuse units incorporated in the ironclad switch-fuses, distribution boards, etc., shown in this catalogue. They have been determined after exhaustive tests under working conditions.

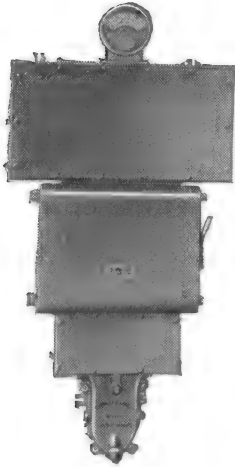
Normal current	Fusing current	Tinned copper fuse wire	Normal current	Fusing current	Tinned copper fuse wire
Amps.	Amps.	S.W.G.	Amps.	Amps.	S.W.G.
5	10	36	40	80	19
8	16	32	50	100	18
10	20	29	60	120	17
12	24	27	75	150	15
15	30	25	100	200	14
20	40	23	150	300	11
25	50	21	200	400	4 × 16
30	60	20	—	—	—

**G.E.C.**

# LINE CONTACT CIRCUIT BREAKERS

(Patent Nos. 290819 and 297164).

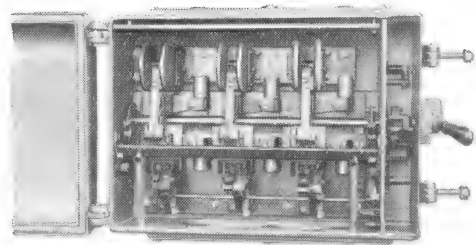
## INDUSTRIAL IRONCLAD TYPE



Industrial ironclad line contact circuit-breaker with ammeter, bus-bar chamber, and cable box.



**X 9753/8**



**X 9753/8 (Open)**

The new type of contact embodied in the G.E.C. line contact circuit-breaker allows a larger section of metal and higher pressure between the contacts than the usual brush type. It takes the form of vee-shaped copper blades which fit into vee-shaped grooves in the contact block. The number of blades used for any particular breaker is determined by the current the breaker is designed to carry. Each blade carries approximately 125 amps.

The voltage drop from block to block, when each blade is carrying 125 amps., has a maximum total value of 8 millivolts, of which 2 millivolts are in the blade itself and 3 millivolts at each end of the blade. The voltage drop in an ordinary brush type breaker may vary from 20 to 25 millivolts, and it will thus be seen that the line contact breaker has very superior properties.

These line contact circuit-breakers are made in sizes up to 600 amps. in single, double and triple pole forms, with or without neutral link. They can be fitted with overload, low-volt, or combined overload and low-volt releases. Ammeter attachments, bus-bar chambers and cable boxes can also be supplied.

All breakers are provided with free handles, making it impossible to hold them closed on an overload, short-circuit, or other abnormal condition.

The contacts are insulated from the supports by bakelite or sindanyo, thus obviating the possibility of leakage.

*For details and prices see pages 374—375.*

*For Dimensions see page 385.*

**S.E.C.****LINE CONTACT CIRCUIT-BREAKERS****INDUSTRIAL IRONCLAD TYPE****With Front Terminals and Magnetic Blow-out.****OVERLOAD PATTERN.****For Direct or Alternating Current. Up to 600 volts.**

Capacity	Overload range of calibration	SINGLE POLE			DOUBLE POLE				
					With two overload coils				
		Cat. No.	Price			Cat. No.	Price		
Amps.			£	s.	d.		£	s.	d.
150	100	X 9723	11	15	0	X 9733	15	10	0
200	per	X 9724	12	18	0	X 9734	16	3	0
300	cent	X 9725	13	7	0	X 9735	18	5	0
400	above	X 9726	15	10	0	X 9736	20	4	0
500	normal	X 9727	18	0	0	X 9737	23	5	0
600		X 9728	20	8	0	X 9738	26	12	0

Capacity		Overload range of calibration	TRIPLE POLE						
			With two overload coils			With three overload coils			
			Cat. No.	Price			Cat. No.	Price	
Amps.			£	s.	d.		£	s.	d.
150	100	X <b>9743</b>	<b>23</b>	<b>14</b>	<b>0</b>	X <b>9753</b>	<b>26</b>	<b>18</b>	<b>0</b>
200	per	X <b>9744</b>	<b>26</b>	<b>15</b>	<b>0</b>	X <b>9754</b>	<b>28</b>	<b>18</b>	<b>0</b>
300	cent	X <b>9745</b>	<b>27</b>	<b>10</b>	<b>0</b>	X <b>9755</b>	<b>31</b>	<b>16</b>	<b>0</b>
400	above	X <b>9746</b>	<b>30</b>	<b>0</b>	<b>0</b>	X <b>9756</b>	<b>33</b>	<b>0</b>	<b>0</b>
500	normal	X <b>9747</b>	<b>33</b>	<b>0</b>	<b>0</b>	X <b>9757</b>	<b>37</b>	<b>5</b>	<b>0</b>
600		X <b>9748</b>	<b>36</b>	<b>12</b>	<b>0</b>	X <b>9758</b>	<b>41</b>	<b>12</b>	<b>0</b>

Capacity	Overload range of calibration	SINGLE POLE WITH NEUTRAL LINK			DOUBLE POLE WITH NEUTRAL LINK				
					With two overload coils				
		Cat. No.	Price			Cat. No.	Price		
Amps.			£	s.	d.		£	s.	d.
150	100	X 9923	14	4	0	X 9933	21	4	0
200	per	X 9924	15	8	0	X 9934	22	0	0
300	cent	X 9925	16	16	0	X 9935	24	16	0
400	above	X 9926	18	15	0	X 9936	27	16	0
500	normal	X 9927	21	12	0	X 9937	30	6	0
600		X 9928	24	0	0	X 9938	34	0	0

Capacity	Overload range of calibration	TRIPLE POLE WITH NEUTRAL LINK					
		With three overload coils					
		Cat. No.		Price			
Amps.				£	s.	d.	
150	100	X 9953		33	10	0	
200	per	X 9954		36	12	0	
300	cent	X 9955		38	10	0	
400	above	X 9956		40	12	0	
500	normal	X 9957		45	4	0	
600		X 9958		49	0	0	

*For Dimensions see page 385.*

# LINE CONTACT CIRCUIT-BREAKERS

## INDUSTRIAL IRONCLAD TYPE

**With Front Terminals and Magnetic Blow-out.**

**OVERLOAD AND LOW-VOLT PATTERN (Self Reset).**

**For Direct or Alternating Current.**

**Up to 600 volts.**

The circuit-breakers described on the preceding page can be fitted with low-volt attachments :

Up to and including 500 volts	..	..	..	£2 16 6 extra
Above 500 and up to 600 volts	..	..	..	£3 12 0 extra

NOTE.—When ordering combined overload and low-volt circuit-breakers, please quote Catalogue Number, followed by the letters "NV," voltage, and (if for A.C.) periodicity, *e.g.*, a 400-amp. single-pole overload and low-volt circuit-breaker for 220-volt, 50 cycle, A.C. supply would be X 9726, NV, 220, 50 cycles; for 220-volt D.C. it would be X 9726, NV, 220 D.C.

### EXTRAS.

Bus-bar Chamber															
No. of poles	Conduit Boxes			Adaptor boxes for Cable boxes or Ammeters			With 400-amp. bus-bars			With 600-amp. bus-bars			With 800-amp. bus-bars		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
2	1	10	0	3	4	0	10	0	0	12	10	0	15	4	0
3	1	13	0	3	4	0	10	10	0	13	12	0	16	4	0
4	2	0	0	3	14	0	11	0	0	16	4	0	17	8	0

NOTE.—In ordering bus-bar chambers, a single-pole circuit-breaker with neutral link should be classed as a double-pole breaker, and so on.

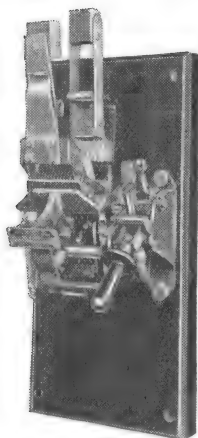
6-in. Dial Moving Iron Ammeters						
Range	Round pattern—back connections			Pedestal pattern		
Amps.	£	s.	d.	£	s.	d.
150	3	10	0	4	0	0
300	4	8	0	5	4	0
600	5	0	0	6	8	0

Cable Boxes											
Capacity	Size of conductor	Twin core			Three core			Four core			
Amps.	in.	£	s.	d.	£	s.	d.	£	s.	d.	
150	.15	2	10	0	3	3	0	3	14	0	
200	.2	3	2	0	3	4	0	4	2	0	
300	.3	3	12	0	3	14	0	4	15	0	
400	.4	3	12	6	4	2	0	4	16	0	
500	.5	4	0	0	4	3	0	4	17	0	
600	.6	4	0	0	4	15	0	4	17	0	

When ordering breakers with cable boxes, class of insulation, number and size of cores, diameter over lead and armouring, and whether taped or wire armoured, should be stated.

**Time Lags, Price £1 7 6 per pole.**

*For Dimensions see page 385.*

**S.E.C.****LINE CONTACT CIRCUIT-BREAKERS****"SALFORD" TYPE***(Patent Nos. 290819 and 297164).***From 300 up to 1,600 amps.****Up to 660 volts.**

Single Pole Type.

These current breakers (Form "L.A."), of overload pattern, designed for use with Direct or Alternating Current, have back terminals and carbon break. The overload range of calibration is 100 per cent above normal.

Capacity	SINGLE POLE			
	Cat. No.	Price		
amps.		£	s.	d.
300	X <b>8913</b>	6	12	0
400	X <b>8914</b>	11	13	0
500	X <b>8915</b>	14	1	0
600	X <b>8916</b>	14	11	0
700	X <b>8917</b>	15	15	0
800	X <b>8918</b>	16	8	0
1,000	X <b>8919</b>	22	2	0
1,200	X <b>8920</b>	23	10	0
1,600	X <b>8921</b>	32	15	0

Capacity	DOUBLE POLE			TRIPLE POLE		
	With two overload coils			With three overload coils		
	Cat. No.	Price			Cat. No.	Price
amps.		£	s.	d.		£ s. d.
300	X <b>8933</b>	13	3	0	X <b>8973</b>	19 16 0
400	X <b>8934</b>	23	6	0	X <b>8974</b>	34 19 0
500	X <b>8935</b>	28	2	0	X <b>8975</b>	42 3 0
600	X <b>8936</b>	29	2	0	X <b>8976</b>	43 13 0
700	X <b>8937</b>	31	10	0	X <b>8977</b>	47 5 0
800	X <b>8938</b>	32	16	0	X <b>8978</b>	49 4 0
1,000	X <b>8939</b>	44	4	0	X <b>8979</b>	66 6 0
1,200	X <b>8940</b>	47	10	0	X <b>8980</b>	70 10 0
1,600	X <b>8941</b>	69	0	0	X <b>8981</b>	98 0 0

**OVERLOAD AND LOW-VOLT PATTERN (Self Reset).**

The circuit-breakers described above can be fitted with low-volt attachment for Direct or Alternating Current :

Up to and including 500 volts .. .. . £3 15 0 extra.

Above 500 and up to 600 volts .. .. . £4 14 0 extra.

NOTE—When ordering combined overload and low-volt circuit-breakers, please quote Catalogue Number, followed by the letters "NV," voltage, and (if for A.C.) periodicity.

**OVERLOAD AND REVERSE PATTERN (Self Reset).**

Any single or double pole overload circuit-breaker in this series can be fitted for Direct Current only, with a POLARIZED REVERSE Current attachment.

300 amps. .. Up to and including 250 volts .. £5 4 0 extra.

300 amps. .. Above 250 and up to 660 volts .. £6 10 0 extra.

301—800 amps., 250 volts £6 10 0 801—1600 amps., 250 volts £8 8 0

Ditto 660 volts £7 8 0 Ditto 660 volts £9 2 0

These circuit-breakers operate with a reverse current  $7\frac{1}{2}$  per cent of the normal.

NOTE—When ordering combined overload and polarized reverse current circuit-breakers, please quote Catalogue Number, followed by the letters "PR" and exact voltage.

*For Dimensions see page 386.*



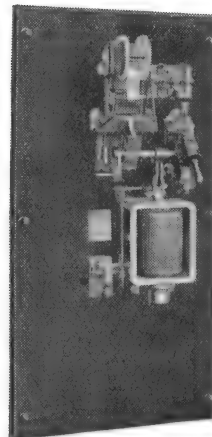
## LINE CONTACT CIRCUIT-BREAKERS

### "SALFORD" OPEN TYPE

(Patent Nos. 290819 and 297164).

**From 1,600 up to 10,000 amps. Up to 660 volts.**

These circuit-breakers (Form "L.B."), of overload pattern, designed for use with Direct and Alternating Current, have back terminals and carbon break. The overload range of calibration is 100 per cent above normal.



Form "L.B." Single pole Type.

Capacity	SINGLE POLE			
	Cat. No.	Price		
amps.		£	s.	d.
2,000	X <b>8922</b>	<b>50</b>	<b>0</b>	<b>0</b>
2,600	X <b>8923</b>	<b>51</b>	<b>0</b>	<b>0</b>
3,000	X <b>8924</b>	<b>52</b>	<b>10</b>	<b>0</b>
3,600	X <b>8925</b>	<b>62</b>	<b>0</b>	<b>0</b>
4,000	X <b>8926</b>	<b>70</b>	<b>10</b>	<b>0</b>
5,000	X <b>8927</b>	<b>79</b>	<b>0</b>	<b>0</b>
6,000	X <b>8928</b>	<b>90</b>	<b>0</b>	<b>0</b>
8,000	X <b>8929</b>	<b>122</b>	<b>0</b>	<b>0</b>
10,000	X <b>8930</b>	<b>154</b>	<b>0</b>	<b>0</b>

Capacity	DOUBLE POLE				TRIPLE POLE			
	With two overload coils				With three overload coils			
	Cat. No.	Price			Cat. No.	Price		
amps.		£	s.	d.		£	s.	d.
2,000	X <b>8942</b>	100	0	0	X <b>8982</b>	150	0	0
2,600	X <b>8943</b>	102	0	0	X <b>8983</b>	153	0	0
3,000	X <b>8944</b>	105	0	0	X <b>8984</b>	157	10	0
3,600	X <b>8945</b>	124	0	0	X <b>8985</b>	186	0	0
4,000	X <b>8946</b>	141	0	0	X <b>8986</b>	211	10	0
5,000	X <b>8947</b>	158	0	0	X <b>8987</b>	247	0	0
6,000	X <b>8948</b>	180	0	0	X <b>8988</b>	270	0	0
8,000	X <b>8949</b>	244	0	0	X <b>8989</b>	366	0	0
10,000	X <b>8950</b>	308	0	0	X <b>8990</b>	462	0	0

### OVERLOAD AND LOW-VOLTAGE PATTERN (Self Reset).

The circuit-breakers described above can be fitted with low-volt attachment for Direct or Alternating Current :

Up to 5,000 amps. and 500 volts	..	..	..	£4 14 0 extra.
From 5,001 up to 10,000 amps. and 500 volts	..	..	..	£6 12 0 extra.
Up to 5,000 amps. and 660 volts	..	..	..	£6 2 0 extra.
From 5,001 up to 10,000 amps. and 660 volts	..	..	..	£8 8 0 extra.

NOTE—When ordering combined overload and low-volt circuit-breakers, please quote Catalogue Number, followed by the letters "NV," voltage, and (if for A.C.) periodicity.

### OVERLOAD AND REVERSE PATTERN (Self Reset).

Any single or double pole overload circuit-breaker in this series can be fitted for Direct Current only, with a POLARIZED REVERSE Current attachment.

Up to 5,000 amps. and 250 volts	..	..	..	£6 10 0 extra.
From 5,001 up to 10,000 amps. and 500 volts	..	..	..	£14 1 0 extra.
Up to 5,000 amps. and 660 volts	..	..	..	£12 18 0 extra.
From 5,001 up to 10,000 amps. and 660 volts	..	..	..	£15 19 0 extra.

These circuit-breakers operate with a reverse current  $7\frac{1}{2}$  per cent of the normal.

NOTE—When ordering combined overload and polarized reverse current circuit breakers, please quote Catalogue Number, followed by the letters "PR" and exact voltage.

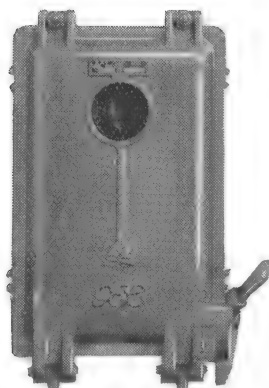
For Dimensions see page 387.

# S.E.C.

## AIR CIRCUIT BREAKERS SALFORD R-A-T FACTORY TYPE, MEDIUM DUTY

(Patent No. 184935).

**Up to 100 amps. Up to 660 volts.**



Double pole Factory Type.

These circuit-breakers, of overload pattern, designed for use with Direct or Alternating Current, have front terminals and a carbon break. They are mounted on an enamelled slate base in cast iron case with an interlocked handle externally operated. The overload range of calibration is 100 per cent above normal.

Capacity	SINGLE POLE				
	Cat. No.	Price			
		£	s.	d.	
amps.					
5	X <b>9600</b>	}			
10	X <b>9601</b>		<b>5</b>	<b>15</b>	<b>0</b>
20	X <b>9602</b>				
30	X <b>9603</b>				
60	X <b>9604</b>		<b>6</b>	<b>3</b>	<b>0</b>
100	X <b>9605</b>		<b>7</b>	<b>0</b>	<b>0</b>

Capacity	DOUBLE POLE			TRIPLE POLE								
	With two overload coils			With two overload coils			With three overload coils					
	Cat. No.	Price		Cat. No.	Price		Cat. No.	Price				
Amps.		£	s.	d.		£	s.	d.		£	s.	d.
5	X 9610	11	10	0	X 9620	16	16	0	X 9630	20	2	0
10	X 9611				X 9621				X 9631			
20	X 9612				X 9622				X 9632			
30	X 9613				X 9623				X 9633			
60	X 9614	12	6	0	X 9624	17	17	0	X 9634	21	2	0
100	X 9615	14	0	0	X 9625	18	15	0	X 9635	22	2	0

### OVERLOAD AND LOW-VOLT PATTERN

The circuit-breakers described above can be fitted with low-volt attachment for Direct or Alternating Current :

Up to and including 110 volts .. .. . £1 11 6 extra.  
Above 110 and up to 660 volts .. .. . £2 14 6 extra.

NOTE—When ordering combined overload and low-volt circuit breakers, please quote Catalogue Number, followed by the letters "NV," voltage, and (if for A.C.) periodicity. Magnetic Blow-outs (*see below*) are recommended for Circuits above 250 volts.

### EXTRAS AND SPARES.

	Price per pole.		
	£	s.	d.
Magnetic Blow-outs .. ..		19	9
Time Lags .. ..	1	7	6
Carbon Tips (two per pole) ..		2	3
Brush and Sparking Tip, 60 amps.		11	9
Brush and Sparking Tip, 100 amps.		14	0

For Dimensions and Weights see page 388.

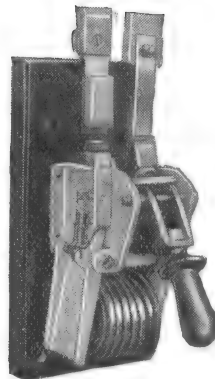
## AIR CIRCUIT BREAKERS

### "SALFORD" R-A-T OPEN TYPE

(Patent No. 184935).

**Up to 100 amps. Up to 660 volts.**

These circuit breakers of overload pattern, designed for use with Direct or Alternating Current have back terminals and carbon brushes. The overload range of calibration is 100 per cent above normal.



Single Pole,  
Open Type.

Capacity	SINGLE POLE				DOUBLE POLE			
					With two overload coils			
	Cat. No.	Price			Cat. No.	Price		
amps.		£	s.	d.		£	s.	d.
5	X 9500	2	19	0	X 9510	6	5	0
10	X 9501				X 9511			
20	X 9502				X 9512			
30	X 9503				X 9513			
60	X 9504	3	5	6	X 9514	6	18	0
100	X 9505	4	0	0	X 9515	8	18	0

TRIPLE POLE									
With two overload coils					With three overload coils				
Capacity	Cat. No.	Price			Cat. No.	Price			
amps.		£	s.	d.		£	s.	d.	
5	X 9520	}	9	6	0	}	12	12	0
10	X 9521								
20	X 9522								
30	X 9523								
60	X 9524		10	6	0		13	13	0
100	X 9525		11	5	0		14	10	0

### OVERLOAD AND LOW-VOLT PATTERN (Hand Reset).

The circuit breakers described above can be fitted with low-volt attachment for Direct or Alternating Current :

Up to and including 110 volts .. .. £1 11 6 extra  
Above 110 and up to 660 volts .. .. £2 14 6 extra

NOTE.—When ordering combined overload and low-volt circuit-breakers, please quote Catalogue Number, followed by the letters "NV," voltage, and (if for A.C.) periodicity.

### EXTRAS AND SPARES.

	Price per pole.		
	£	s.	d.
Front Terminals .. .. .		11	9
Magnetic Blow-outs .. .. .		19	9
Time Lags .. .. .	1	7	6
Carbon Tips (two per pole) .. .. .		2	3
Brush and Sparking Tip, 60 amps. ..		11	9
Brush and Sparking Tip, 100 amps. ..		14	0

For Dimensions see page 388.

# S.E.C.

## AIR CIRCUIT BREAKERS

### "ELF" TYPE

FOR D.C. or A.C. CIRCUITS UP TO 250 VOLTS.



X 8352

This circuit breaker has been designed to provide a simple form of protection for small motor appliances, electric tools, large banks of metallic filament lamps, and other circuits where the initial current is greater than the normal running current.

A thermal overload protective device is provided and is unaffected by temporary overloads; sustained overloads of approximately 30 per cent and above, which might be injurious to the motor, open the circuit breaker after a time delay. The tripping mechanism is sensitive, and the circuit breaker is provided with loose handle features and magnetic blowouts. "Elf" breakers can be supplied without time delay feature.

The handle of the breaker is engraved to show whether it is in the "on" or "off" position.

The base, cover, etc., are constructed of strong highly finished bakelite. The circuit breaker is only slightly larger than an ordinary 15 amp. tumbler switch and is therefore suitable for mounting in banks on distribution boards. It is recommended that a circuit breaker should be connected in one pole and a fuse (set to a higher rating) in the other pole.

### SINGLE POLE "ELF" BREAKERS WITH TIME DELAY FEATURES.

Cat. No.	Capacity	Price each		Cat. No.	Capacity	Price each	
	Amps.	s.	d.		Amps.	s.	d.
X 8350	2	11	8	X 8354	10	11	8
X 8352	5			X 8355	15		

### SINGLE POLE "ELF" BREAKERS INSTANTANEOUS TRIP.

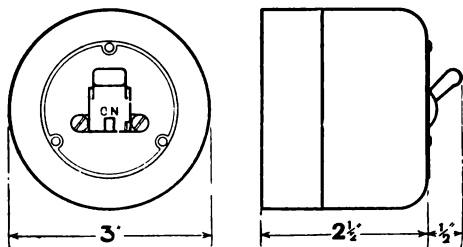
Cat. No.	Capacity	Price each		Cat. No.	Capacity	Price each	
	Amps.	s.	d.		Amps.	s.	d.
X 8400	2	9	4	X 8404	10	9	4
X 8402	5			X 8406	15		

### SINGLE POLE "ELF" BREAKER WITH TEST KEY AND EARTH LEAKAGE TRIP ONLY.

Cat. No. X8358 up to 15 amps .. .. 11s. 0d.

### DOUBLE POLE BREAKER WITH TEST KEY AND EARTH LEAKAGE TRIP ONLY.

Cat. No. X8408 up to 30 amps .. 26s. 0d.



### DIMENSIONS AND WEIGHTS.

X 8350/5 X 8400/6 X 8358

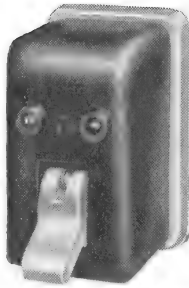
Weight (approx.), 10½ oz. (0.3 kilos).

# AIR CIRCUIT-BREAKERS

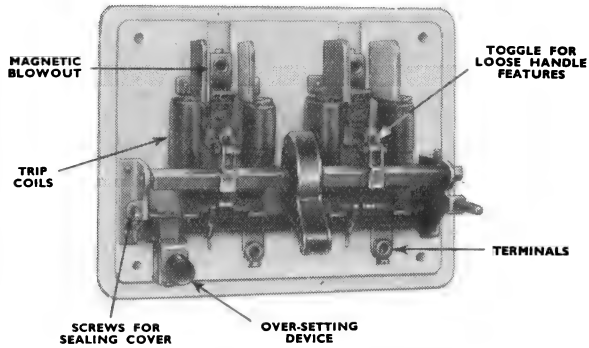
## "SALFORD DWARF" PROTECTED TYPE

### OVERLOAD PATTERN.

**For Direct or Alternating Current up to 15 amps. and up to 250 volts.**



Single Pole "Dwarf"  
Circuit-breaker (complete).



Double Pole "Dwarf" Circuit-breaker  
(without cover).

**Base.**—Strong vitreous porcelain.

**Break.**—Quick break fitted with magnetic blow-outs.

**Loose Handle Features.**—Provided with loose handle features to prevent the breaker being held closed on a fault or overload.

**Cover.**—Moulded insulating material.

**Overload Calibration.**—The circuit breaker is adjusted to open the circuit at approximately 100 per cent above normal.

**Over-setting Device.**—This device is incorporated in the circuit-breaker to prevent it operating with initial rushes of current in excess of 100 per cent overload. It renders the breaker very suitable for controlling loads such as small motors, banks of metallic filament lamps, or other circuits where the initial current is in excess of the normal. At all times the operation of the breaker is instantaneous and will clear the fault when the current exceeds the tripping current. This is an improvement on the usual method of providing time lags, which may allow the fault current to reach a magnitude dangerous to the installation.

Capacity	SINGLE POLE			DOUBLE POLE With two overload coils		
	Cat. No.	Weight Approx.	Price	Cat. No.	Weight Approx.	Price
Amps.		lb. oz.	s. d.		lb. oz.	£ s. d.
2	X <b>7956</b>	1 5	<b>11 0</b>	X <b>8090</b>	3 8	<b>1 10 0</b>
4	X <b>7957</b>			X <b>8091</b>		
6	X <b>7958</b>			X <b>8092</b>		
10	X <b>7959</b>			X <b>8093</b>		
15	X <b>7959A</b>					

### DIMENSIONS.

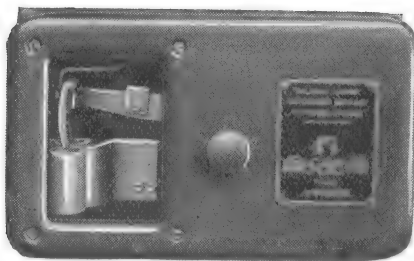
Single Pole— $4\frac{1}{2}$  in. high  $\times$   $2\frac{7}{16}$  in. wide  $\times$   $3\frac{1}{2}$  in. projection.

Double Pole— $5\frac{1}{4}$  in. high  $\times$   $6\frac{7}{16}$  in. wide  $\times$   $3\frac{1}{2}$  in. projection.

# S.E.C.

## "SALFORD" AUTOMATIC BATTERY CUT-IN AND CUT-OUT

(Patent No. 10830/10).



**X 6011 Salford Automatic Battery Cut-in and Cut-out.**

metal, for sizes up to 50 amperes; above this size it is cast. The terminals are brought out at the back.

The advantages conferred by this type of cut-in and cut-out are—(1) Only two external connections are necessary except where an external resistance is used. (2) Whatever the direction of current the permanent magnet is strengthened. (3) Strong working forces, the armature being repelled from one pole and attracted to another. (4) Very compact, occupying the minimum space. (5) Little or no sparking at the mercury cups.

The Salford Automatic Battery Cut-in and Cut-out is of the type that depends for its operation upon the interaction of a movable coil, to which are attached the dippers, and a fixed coil, which are jointly affected by the field of a permanent magnet. The horse-shoe type of permanent magnet used is such that no short circuit, however severe, can reverse the polarity, as might easily happen in a cut-in and cut-out employing a bar magnet or short strip of magnet steel. The various parts are assembled on a slate base and are protected by a stove enamelled metal cover provided with an inspection window and fitting closely over the slate base. The cover is of sheet

Capacity	Max. dynamo volts, 40 volts. Lamp voltage, 25—28 volts. 12—14 Cells.				Max. dynamo volts, 70 volts. Lamp voltage. 50—56 volts. 25—27 Cells.			
	Cat. No.	Price each			Cat. No.	Price each		
Amps.		£	s.	d.		£	s.	d.
10	X <b>6003</b>	<b>2</b>	<b>0</b>	<b>0</b>	X <b>6004</b>	<b>2</b>	<b>0</b>	<b>0</b>
20	X <b>6001</b>	<b>2</b>	<b>0</b>	<b>0</b>	X <b>6002</b>	<b>2</b>	<b>0</b>	<b>0</b>
30	X <b>6011</b>	<b>2</b>	<b>2</b>	<b>0</b>	X <b>6013</b>	<b>2</b>	<b>4</b>	<b>0</b>
50	X <b>6012</b>	<b>2</b>	<b>7</b>	<b>0</b>	X <b>6014</b>	<b>2</b>	<b>9</b>	<b>0</b>
100	X <b>6008</b>	<b>5</b>	<b>13</b>	<b>0</b>	X <b>5937</b>	<b>5</b>	<b>15</b>	<b>0</b>
150	X <b>6009</b>	<b>5</b>	<b>17</b>	<b>0</b>	X <b>5938</b>	<b>5</b>	<b>19</b>	<b>0</b>
200	X <b>6015</b>	<b>6</b>	<b>1</b>	<b>0</b>	X <b>5939</b>	<b>6</b>	<b>7</b>	<b>0</b>

Capacity	Max. dynamo volts, 140 volts. Lamp voltage, 100—110 volts. 50—54 Cells.				Max. dynamo volts, 280 volts. Lamp voltage, 200—225 volts. 100—108 Cells.			
	Cat. No.	Price each			Cat. No.	Price each		
Amps.		£	s.	d.		£	s.	d.
10	X <b>5994</b>	<b>2</b>	<b>7</b>	<b>0</b>	X <b>5995</b>	<b>3</b>	<b>0</b>	<b>0</b>
20	X <b>5999</b>	<b>2</b>	<b>7</b>	<b>0</b>	X <b>6000</b>	<b>3</b>	<b>0</b>	<b>0</b>
30	X <b>6031</b>	<b>2</b>	<b>7</b>	<b>0</b>	X <b>6033</b>	<b>3</b>	<b>2</b>	<b>0</b>
50	X <b>6032</b>	<b>2</b>	<b>13</b>	<b>0</b>	X <b>6034</b>	<b>3</b>	<b>8</b>	<b>0</b>
100	X <b>5987</b>	<b>6</b>	<b>1</b>	<b>0</b>	X <b>6023</b>	<b>7</b>	<b>1</b>	<b>0</b>
150	X <b>5988</b>	<b>6</b>	<b>7</b>	<b>0</b>	X <b>6024</b>	<b>7</b>	<b>6</b>	<b>0</b>
200	X <b>5989</b>	<b>6</b>	<b>12</b>	<b>0</b>	X <b>6025</b>	<b>7</b>	<b>10</b>	<b>0</b>

NOTE.—The Cut-in and Cut-outs listed above are wound for use with the number of cells specified and cannot be guaranteed to work satisfactorily with other numbers of cells. For Automatic Cut-in and Cut-outs used in Battery Charging Stations special windings are required; when ordering please state maximum and minimum number of cells to be charged at one time, maximum and minimum charging current, and supply voltage.

### EXTRA FOR SPARES.

**Mercury.**—Up to 50 amps., 4s. 9d. per bottle. Up to 200 amps., 7s. 6d. per bottle.

**Spare Forks.**—Up to 50 amps., 2s. 6d. each. Up to 200 amps., 7s. 6d. each.

**Anti-Splash Caps.**—Up to 50 amps., 5s. 9d. per pr. Up to 200 amps., 9s. 6d. per pr.

# OIL CIRCUIT BREAKERS TYPE OA

**FOR USE ON A.C. CIRCUITS UP TO 660 VOLTS.**

G.E.C. oil circuit breakers, type OA, are suitable for either wall or pedestal mounting and can be built up into unit type switchboards by the addition of busbar chambers.

They are rated as follows :

Type	Max. breaking capacity.	Max. voltage.	Amps.
OA.	6000 kVA	660	30-150

The fixed contacts are of the line-contact controller pattern, arranged in pairs and supported on porcelain insulators, which also carry the connecting terminals of the circuit breaker. The moving contacts are of high conductivity hard drawn copper bars of wedge section. They are mounted on a horizontal pressed steel bar from which they are insulated by means of bakelised paper, the bar being coupled to the operating mechanism. The circuit breaker is provided with two breaks per phase.

The operating mechanism embodies the free handle feature so that it is impossible to hold the circuit breaker closed against abnormal conditions. Accelerating springs are fitted to give the correct speed of break. The operating handle is placed at the right hand side of the circuit breaker and the breaker can also be tripped by means of a small lever mounted on the front.

The circuit breaker tank is of cast iron and provided with a special impregnated birch plywood lining, divided into separate compartments for each phase. An oil space between the birch lining and tank ensures that a layer of quiescent oil is always present, thereby preventing an arc occurring between the circuit breaker contacts and the tank.

The standard circuit breaker is provided with three overload series wound time limit trips and a no-volt trip coil for wall mounting. The tripping mechanism can be adjusted on a calibrated scale, while the time lags, which are of the oil dash pot pattern, can be adjusted between the limits "fast" and "slow" as marked on the calibration tube. Where required the calibration tube can be enclosed by a removable cast iron cover at a small extra charge.



Oil Circuit Breaker, type OA, equipped with isolator and ammeter, mounted on pedestals.

## SINGLE UNIT ASSEMBLIES.

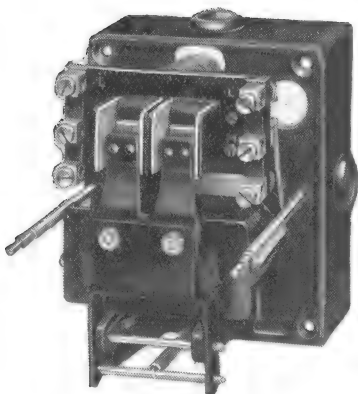
Capacity			Cat. No.	Description	Price each										
Amps.					£	s.	d.								
60			X <b>7524</b>	Three-pole circuit-breaker with three overload releases with time lags, no-volt release and single pole auxiliary switch 660 volts, bushed for V.I.R. cable.	<b>12</b>	<b>0</b>	<b>0</b>								
100			X <b>7525</b>		<b>13</b>	<b>18</b>	<b>0</b>								
150			X <b>7526</b>		<b>14</b>	<b>16</b>	<b>0</b>								
<b>EXTRAS.</b>															
Shunt trip			Weatherproof Cover for time lags	Interlocked isolator	Tank and Cover Interlock	Ammeters				Neutral Connector					
						6-in diameter		3½-in. diameter							
£	s.	d.	s.	d.	£	s.	d.	£	s.	d.	s.	d.			
<b>1</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>6</b>	<b>0</b>	<b>13</b>	<b>0</b>			
								<b>4</b>	<b>14</b>	<b>0</b>			<b>3</b>	<b>16</b>	<b>0</b>
								<b>4</b>	<b>15</b>	<b>0</b>			<b>4</b>	<b>7</b>	<b>0</b>
									</						

Further details of these Oil Circuit Breakers will be forwarded on request.

# S&C

## "SALFORD" REMOTE CONTROL RELAYS

Direct or Alternating Current.



SALFORD Relay (without cover).

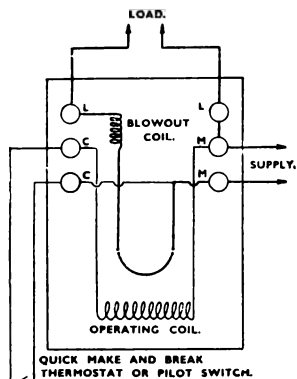


Diagram of Connections.

**Description.**—This relay is a double break single-pole switch, electrically remote controlled by small pilot wires, and is suitable for use on certain classes of thermostatic control.

The operating mechanism consists of a fixed laminated core fitted with a solenoid wound for the correct operating voltage. The movable laminated pole piece, to which is attached the contact of the switch, is hinged on pedestal bearings. Powerful electro-magnetic blow-outs are provided. The mechanism is mounted on a substantial cast base drilled for conduit.

The relay is rated for a normal current of 15 amps. at voltages not exceeding 250 volts A.C. or D.C. The correct voltage and periodicity (if A.C.) should be specified when ordering.

The operating current at 250 volts D.C. does not exceed .025 amps. At 250 volts A.C., 50 cycles, the closing current does not exceed .35 amps. and the retaining current does not exceed .05 amps.

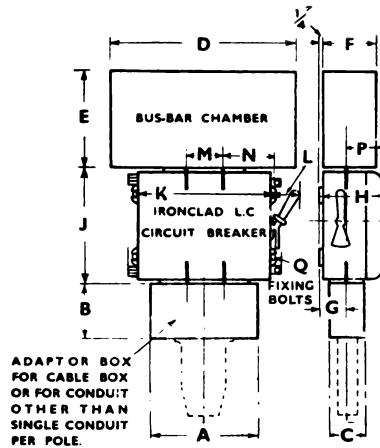
Cat. No.	Voltage, etc.	Dimensions			Weight (approx.)		Price	
		Length	Height	Depth				
		In.	In.	In.	Lb.	Kilos	£	s. d.
X <b>7950</b>	200—250 v. } 50 cycles							
X <b>7952</b>	100—110 v. } A.C.	4½	4½	5½	3½	1.59	<b>2 5 0</b>	
X <b>7953</b>	200—250 v. } D.C.	4½	4½	5½	3½	1.59	<b>2 5 0</b>	
X <b>7955</b>	100—110 v. }							



# LINE CONTACT CIRCUIT-BREAKERS

## INDUSTRIAL IRONCLAD TYPE

### DIMENSIONS.



TYPICAL LAYOUT GIVING DETAILS OF BUS-BAR CHAMBERS, ADAPTOR BOX AND BREAKER

Capacity	Number of poles	A	B	C	D	E	F	G	H	Circuit-breaker weight (approx.)	
Amps.		ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	lb.	kilos.
150/400	Single pole	—	—	—	25	12	7½	3½	9½	95	42½
	D.p. (or s.p. with link)	17	9½	5½	30	16	7½	—	—	136	61½
	T.p. (or d.p. with link)	17	—	—	35	20	9	—	—	155	70½
	4 p. (or t.p. with link)	24	—	—	—	—	—	—	—	180	82
401/600	Single pole	—	—	—	33	12	7½	4½	12	200	91
	D.p. (or s.p. with link)	22½	11½	7½	40	16	7½	—	—	250	113
	T.p. (or d.p. with link)	29½	—	—	47	20	9	—	—	310	140
	4 p. (or t.p. with link)	36½	—	—	—	—	—	—	—	380	173

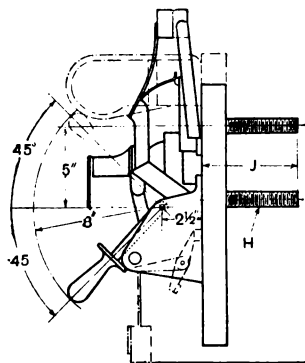
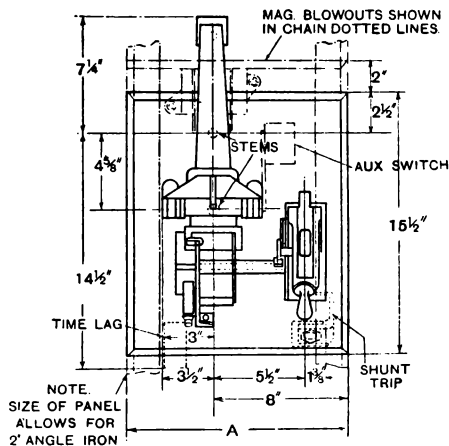
Capacity	Number of poles	J	K	L	M	N	P	Q	Circuit-breaker weight (approx.)	
Amps.		ins.	ins.	ins.	ins.	ins.	ins.	ins.	lb.	kilos.
150/400	Single pole	—	12½	—	—	—	—	—	95	42½
	D.p. (or s.p. with link)	18	17½	3	5	5½	5½	½	136	61½
	T.p. (or d.p. with link)	—	22½	—	—	—	—	—	155	70½
	4 p. (or t.p. with link)	—	27½	—	—	—	—	—	180	82
401/600	Single pole	—	16	—	—	—	—	—	200	91
	D.p. (or s.p. with link)	24	23	3½	7	7½	7½	½	250	113
	T.p. (or d.p. with link)	—	30	—	—	—	—	—	310	140
	4 p. (or t.p. with link)	—	37	—	—	—	—	—	380	173

For detailed description see page 373.

N.B.—Although every care has been taken in compiling the above dimensions no responsibility can be entertained for inaccuracies or consequential damages.

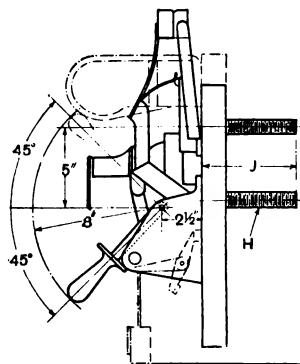
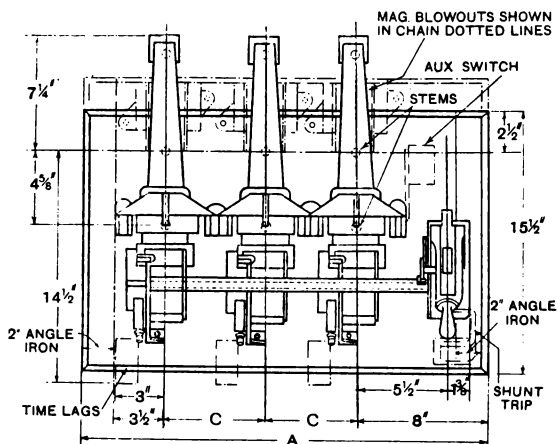
# S.E.C.

## LINE CONTACT CIRCUIT BREAKERS "SALFORD" SINGLE POLE HAND OPERATED TYPE DIMENSIONS.



Capacity	J	H	A	Capacity	J	H	A	Capacity	J	H	A
Amps.	In.	In.	In.	Amps.	In.	In.	In.	Amps.	In.	In.	In.
300	5	1 1/2	13	601—800	5 1/2	1	13	1,201—1,600	9	1 1/2	13 1/2
301—400	5	1 1/2	13	801—1,000	7	1 1/2	13				
401—600	5 1/2	1 1/2	13	1,001—1,200	7 1/2	1 1/2	13				

## MULTI-POLE HAND OPERATED.

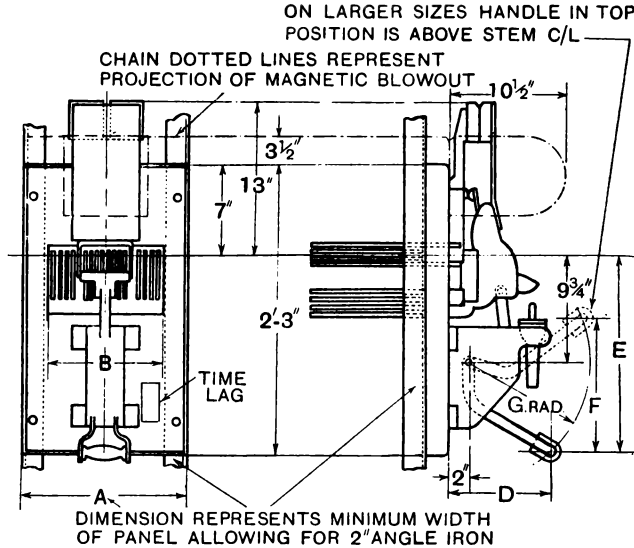


Capacity	J	H	A		Capacity	J	H	A		Capacity	J	H	A	
	In.	In.	D.P.	T.P.		In.	In.	D.P.	T.P.		In.	In.	D.P.	T.P.
Amps.	In.	In.	In.	In.	Amps.	In.	In.	In.	In.	Amps.	In.	In.	In.	In.
300	5	1 1/2	18 1/2	24	601—800	5 1/2	1	18 1/2	24	1,201—1,600	9	1 1/2	20	26 1/2
301—600	5	1 1/2	18 1/2	24	801—1,000	7	1 1/2	18 1/2	24					
401—600	5 1/2	1 1/2	18 1/2	24	1,001—1,200	7 1/2	1 1/2	18 1/2	24					

# LINE CONTACT CIRCUIT BREAKERS

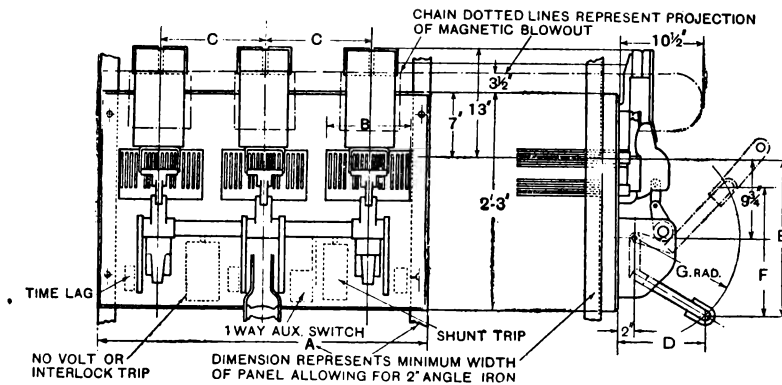
## "SALFORD" SINGLE POLE HAND OPERATED TYPE

### DIMENSIONS.



Capacity	A	B	D	E	F	G	Capacity	A	B	D	E	F	G	Capacity	A	B	D	E	F	G
Amps.	In.	In.	In.	In.	In.	In.	Amps.	In.	In.	In.	In.	In.	In.	Amps.	In.	In.	In.	In.	In.	In.
1,601—2,000	12½	7½	11½	18½	14½	13	4,001—6,000	19½	14½	15½	21	20	17½	8,001—9,000	26½	20½	19½	23½	25	22
2,001—3,000	13½	8½	11½	18½	14½	13	6,001—7,000	21½	16½	15½	21	20	17½	9,001—10,000	27½	22½	19½	23½	25	22
3,001—4,000	15½	10½	11½	18½	14½	13	7,001—8,000	23½	18½	15½	21	20	17½							

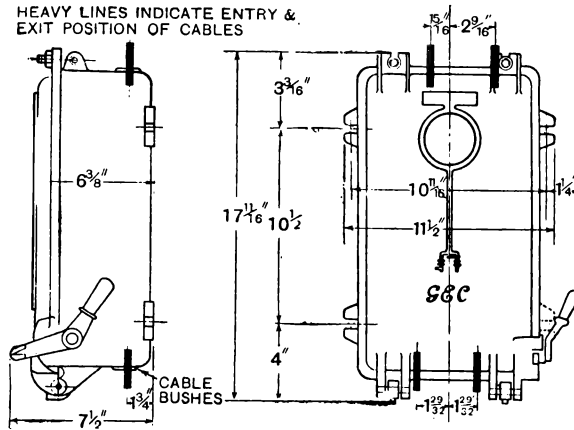
### MULTI-POLE HAND OPERATED.



Capacity	A		B	D	E	F	G	Capacity	A		B	D	E	F	G	Capacity	A		B
	D.P.	T.P.							D.P.	T.P.							D.P.	T.P.	
Amps.	In.	In.	In.	In.	In.	In.	In.	Amps.	In.	In.	In.	In.	In.	In.	In.	Amps.	In.	In.	In.
1,601—2,000	23	34	7½	10½	19½	14½	13	4,001—6,000	36	53	14½	22½	26	30½	26½	8,001—9,000	52	77	20½
2,001—3,000	24	35	8½	14½	21½	20	17½	6,001—7,000	40	59	16½	22½	26	30½	26½	9,001—10,000	52	77	22½
3,001—4,000	28	41	10½	18½	23½	25	22	7,001—8,000	44	65	18½								

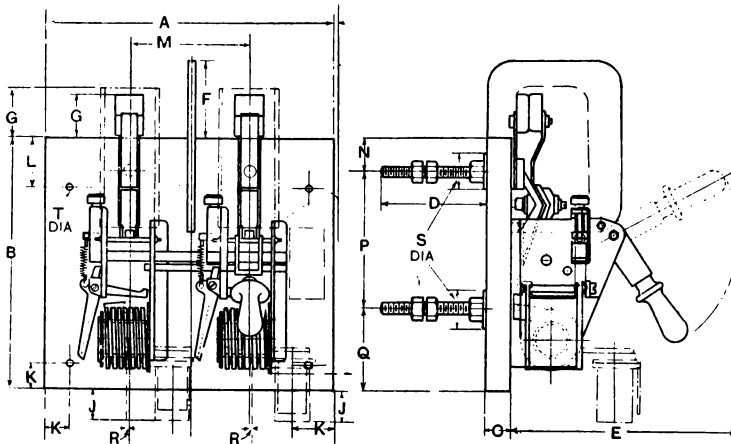
# S.E.C.

## AIR CIRCUIT BREAKERS "SALFORD" R-A-T FACTORY PATTERN DIMENSIONS.



Number of poles	Dimensions	Weight (approx.)	
		Lb.	Kilos.
Single pole	As above but 3 in. narrower	33	15
Double pole	As above	50	22.7
Triple pole	As above but $3\frac{1}{4}$ in. wider	82	37.3

### OPEN PATTERN.



Number of poles	A	B	C	D	E	F	G	J	Dia. of Stems
Single pole ..	In.	In.	In.	In.	In.	In.	In.	In.	In.
Double pole ..	$3\frac{1}{2}$	$7\frac{1}{8}$	$7\frac{1}{8}$	3	$6\frac{1}{2}$	$2\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	Wh.
Triple pole ..	$11\frac{1}{4}$	$7\frac{1}{8}$	$7\frac{1}{8}$	3	$6\frac{1}{2}$	$2\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	Wh.

Number of poles	K	L	M	N	P	Q	S	T	Dia. of Stems
Single pole ..	In.	In.	In.	In.	In.	In.	In.	In.	In.
Double pole ..	$2\frac{1}{2}$	$1\frac{1}{2}$	$3\frac{1}{2}$	1	$3\frac{1}{2}$	$2\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	Wh.
Triple pole ..	$2\frac{1}{2}$	$1\frac{1}{2}$	$3\frac{1}{2}$	1	$3\frac{1}{2}$	$2\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	Wh.

# **“ WITTON ” SWITCHES** **BACK CONNECTED** **SINGLE THROW**

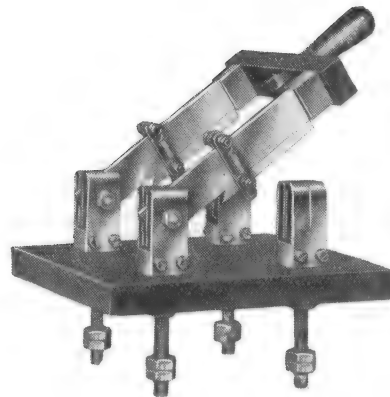
**For Circuits up to 660 Volts.**

WITTON Knife Switches are made in single, double, and triple pole forms, single and double throw. Quick break switches are standard, but all sizes can be supplied in slow break form (prices on application). The dimensions of switches from 30 to 400 amps. inclusive are in accordance with British Standard Specification No. 109.

Back connections are standard, but up to 600 amps. front terminals can be supplied (prices on application).

Three hexagon nuts per stem are supplied on back connected switches up to 3,000 amps.

Current capacity	Single pole			
	Catalogue No.	Price each		
		Unmounted switches	Mounted on base	
Amps.		£ s. d.	£ s. d.	
15	X <b>5140</b>	7 8	9 4	
30	X <b>5141</b>	8 4	11 0	
60	X <b>5142</b>	12 4	14 4	
100	X <b>5143</b>	16 0	19 8	
200	X <b>5144</b>	1 4 4	1 9 4	
300	X <b>5145</b>	2 2 4	2 7 4	
400	X <b>5146</b>	3 3 8	3 10 8	
500	X <b>5147</b>	3 11 8	4 0 0	
600	X <b>5148</b>	4 8 0	4 18 0	
800	X <b>5150</b>	6 4 0	6 18 0	
1000	X <b>5151</b>	7 16 8	8 14 4	
1200	X <b>5152</b>	9 7 4	10 9 0	
1600	X <b>5153</b>	11 8 4	12 14 0	
2000	X <b>5154</b>	13 9 0	14 19 8	
3000*	X <b>5155</b>	23 12 8	26 6 4	



**X 5174**

Current capacity	Double pole				Triple pole			
	Catalogue No.	Price each		Catalogue No.	Price each			
		Unmounted switches	Mounted on base		Unmounted switches	Mounted on base		
Amps.		£	s.	d.	£	s.	d.	
15	X <b>5170</b>		15	0		18	4	
30	X <b>5171</b>		17	4		1	2 4	
60	X <b>5172</b>	1	3	8		1	8 4	
100	X <b>5173</b>	1	12	0		1	19 4	
200	X <b>5174</b>	2	9	4		2	18 4	
300	X <b>5175</b>	4	14	8		5	5 4	
400	X <b>5176</b>	6	17	0		7	12 8	
500	X <b>5177</b>	7	6	8		8	3 4	
600	X <b>5178</b>	8	19	4		9	19 8	
800	X <b>5180</b>	13	17	0		15	8 8	
1000	X <b>5181</b>	17	5	8		19	4 8	
1200	X <b>5182</b>	20	7	8		22	13 8	
1600	X <b>5183</b>	25	5	4		28	2 8	
2000	X <b>5184</b>	29	7	0		32	13 4	
						</		

\*D.C. 3,000 amps.; A.C. 25 cycles, 2,700 amps.; A.C. 50 cycles, 2,500 amps.

**When ordering, please specify whether unmounted or mounted switches are required.**

**Sweating sockets extra** (see page 398).

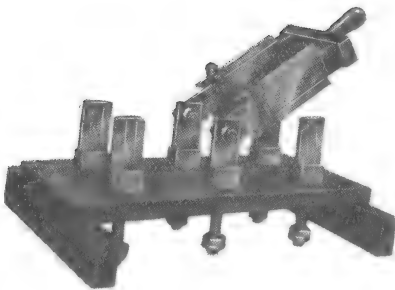
*For dimensions see page 413.*

**“Peel” type switches with “dead” hinge** can be supplied if required—  
 Details on application.

## "WITTON" SWITCHES BACK CONNECTED. DOUBLE THROW

**For Circuits up to 660 Volts.**

WITTON Knife Switches are made in single, double, and triple pole forms, single and double throw. Quick break switches are standard, but all sizes can be supplied in slow break form (prices on application). The dimensions of switches from 30 to 400 amps. inclusive are in accordance with British Standard Specification No. 109. Back connections are standard, but up to 600 amps. front terminals can be supplied (prices on application). Three hexagon nuts per stem are supplied on back connected switches up to 3,000 amps.



**X 5365**

Current capacity	Single pole						
	Catalogue No.	Price each					
		Unmounted switches			Mounted on base		
Amps.		£	s.	d.	£	s.	d.
15	X <b>5340</b>			9 4		11 0	
30	X <b>5341</b>			12 4		16 0	
60	X <b>5342</b>			15 4		18 8	
100	X <b>5343</b>	1	4	4	1	6	0
200	X <b>5344</b>	1	9	8	1	17	4
300	X <b>5345</b>	3	2	0	3	9	0
400	X <b>5346</b>	4	11	4	5	1	8
500	X <b>5347</b>	5	7	8	5	19	8
600	X <b>5348</b>	6	13	8	7	9	0
800	X <b>5350</b>	8	19	4	9	19	8
1000	X <b>5351</b>	11	8	4	12	14	0
1200	X <b>5352</b>	15	9	8	17	5	0
1600	X <b>5353</b>	18	6	8	20	8	4
2000	X <b>5354</b>	21	12	0	24	1	0
3000*	X <b>5355</b>	39	2	4	43	11	0

Current capacity	Double pole				Triple pole			
	Catalogue No.	Price each			Catalogue No.	Price each		
		Unmounted switches	Mounted on base			Unmounted switches	Mounted on base	
Amps.		£	s.	d.		£	s.	d.
15	X 5360	1	9	4	X 5389	1	9	8
30	X 5361	1	4	4	X 5387	1	16	0
60	X 5362	1	10	8	X 5382	2	12	0
100	X 5363	2	8	4	X 5383	3	13	0
200	X 5364	3	7	8	X 5384	5	2	0
300	X 5365	6	17	0	X 5385	10	12	0
400	X 5366	9	12	4	X 5386	15	0	0
500	X 5367	11	8	4	X 5387	17	12	0
600	X 5368	13	17	0	X 5388	21	10	4
800	X 5370	19	11	4	X 5390	31	15	8
1000	X 5371	26	1	8	X 5391	39	2	4
1200	X 5372	32	12	0	X 5392	48	18	0
1600	X 5373	39	2	4	X 5393	58	14	0
2000	X 5374	45	13	0	—	—	—	—

\*D.C. 3,000 amps.; A.C. 25 cycles, 2,700 amps.; A.C. 50 cycles, 2,500 amps.

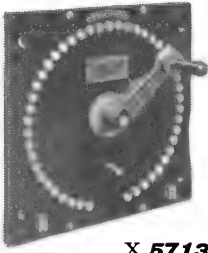
**When ordering, please specify whether unmounted or mounted switches are required.**

**Sweating sockets extra** (see page 398).

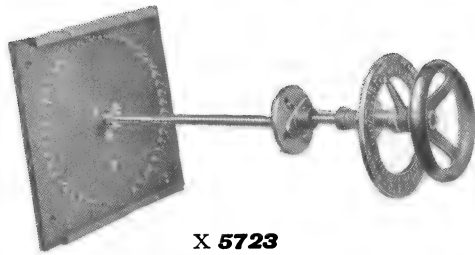
*For dimensions see page 413.*

**"Peel" type switches with "dead" hinge** can be supplied if required—  
Details on application.

## SHUNT RESISTANCE SWITCHES



**X 5713**



**X 5723**

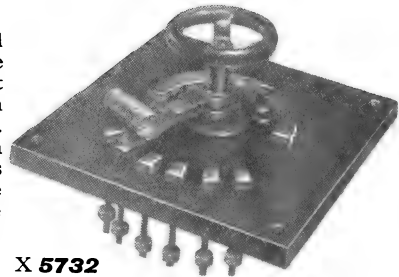
Multiple contacts, either for independent use, or with handwheel, indicating ring and insulating coupling for mounting at back of switchboard; 10 amperes capacity. For use as regulating resistances for dynamos and motors with shunt excitation, and other purposes. Each contact stud provided with two nuts per stem.

No. of points 10 amps.	Front of board type				Back of board type			
	Cat. No.	Weight (approx.)		Price each*	Cat. No.	Weight (approx.)		Price each*
13	X 5710	lb.	kilos	£ s. d.	X 5720	lb.	kilos	£ s. d.
19	X 5711	3	1.36	<b>1 14 8</b>	X 5721	5	2.27	<b>3 1 8</b>
25	X 5712	3	1.36	<b>1 18 0</b>	X 5722	5	2.27	<b>3 5 4</b>
47	X 5713	4½	2.03	<b>2 5 4</b>	X 5723	6½	2.94	<b>3 12 8</b>
		4½	2.03	<b>4 10 8</b>		6½	2.94	<b>5 18 0</b>

\* Prices do not include resistance boxes or sweating sockets. Handwheel, spindle, and half coupling only for back of board regulators, £1 17s. 4d. each. Concentric ditto, £5 12s. 0d. each. Chain drive, 3s. 2d. per foot. Cover for protecting chain drive (max. length 4ft.), £2 17s. 0d. each.

## BATTERY AND MAIN RESISTANCE REGULATORS

The moving brush contacts consist of laminated copper strips which ensure an even pressure on the contacts. In the battery switch the auxiliary contact is of similar form, but insulated from the main brush and connected thereto by a spiral resistance coil. Resistance regulators are of similar form but with one main brush only, which bridges two contacts without breaking circuit; in the 30-amp. size the tail ring is dispensed with and a handle takes the place of the handwheel.



**X 5732**

Carrying capacity	Battery regulators				Main resistance regulators			
	Cat. No.	Weight (approx.)		Price* per 6-way switch	Cat. No.	Weight (approx.)		Price* per 6-way switch
Amps.		lb.	kilos	£ s. d.		lb.	kilos	£ s. d.
30	X 5740	3½	1.47	<b>1 5 4</b>	X 5741	5½	2.49	<b>1 15 4</b>
50	X 5732	11½	5.22	<b>2 17 4</b>	X 5742	12	5.44	<b>2 14 4</b>
100	X 5733	18	8.16	<b>3 19 0</b>	X 5743	18	8.16	<b>3 16 4</b>
200	X 5734	34	15.42	<b>5 14 4</b>	X 5744	35	15.87	<b>5 10 8</b>

\* Prices do not include sweating sockets.

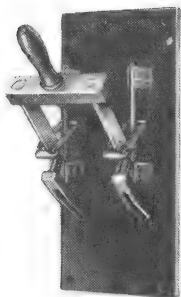
**Switches with greater or less number of ways, prices on application.**

**Unmounted parts:** Up to 100 amps., **15% off** above prices.

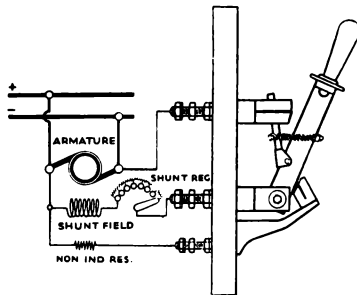
Above 100 amps., **10% off** above prices.

For dimensions see page 414.

## FIELD BREAKING SWITCHES



X 5763



X 5763 Diagram of Connections.

For breaking the field circuits of dynamos, alternators, motors, or any other highly inductive circuits, such as lifting magnets, brake solenoids, etc. Their function is to short the inductive circuit through a non-inductive resistance immediately before the current is ruptured, thus preventing the dangerous rise of voltage that would otherwise occur and be likely to damage the insulation of the field coils. Supplied with back terminals only.

The resistances are wound with a special non-corrodible alloy resistance wire on asbestos tubes. The units are secured to steel bars, being insulated therefrom by porcelain. The resistances are protected by vertical metal covers with slate front upon which the terminals are mounted and are so constructed that any damaged part can immediately be replaced.

Carrying capacity	Single pole			
	Catalogue No.	Weight (approx.)		Price each
Amps.		lb.	kilos	£ s. d.
30	X <b>5751</b>	1½	.57	<b>1 0 0</b>
60	X <b>5752</b>	2½	1.12	<b>1 10 0</b>
100	X <b>5753</b>	5	2.26	<b>2 10 0</b>
200	X <b>5754</b>	7½	3.39	<b>4 3 8</b>

Carrying capacity	Double pole						
	Catalogue No.	Weight (approx.)		Overall dimensions without base.			Price each
		lb.	kilos	Height ins.	Width ins.	Depth ins.	£ s. d.
30	X <b>5761</b>	2½	1.12	7½	4	4½	<b>2 10 0</b>
60	X <b>5762</b>	5½	2.38	8	4½	5½	<b>3 10 0</b>
100	X <b>5763</b>	10½	4.65	10½	4½	6½	<b>5 9 0</b>
200	X <b>5764</b>	15½	7.02	11½	5½	7	<b>8 19 8</b>

### NON-INDUCTIVE RESISTANCES for use with above switches.—

Prices on application.

Full particulars of excitation voltage and field current of machine must be stated.

For sweating sockets see page 398.

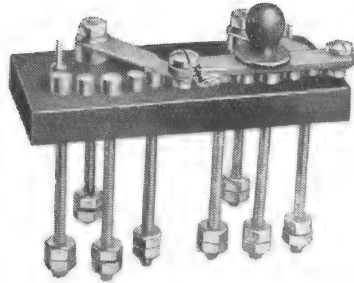


# **AMMETER AND VOLTMETER SWITCHES**

## **RADIAL TYPE.**

For circuits up to 250 volts.

Mounted on enamelled slate and supplied with back connections only. Insulated stops provided between contacts.



**X 5813**

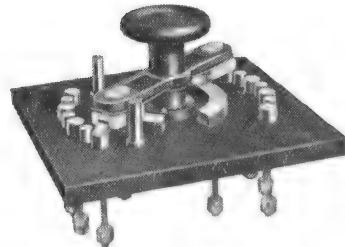
No. of ways	Single pole				Double pole						
	Catalogue No.	Weight (approx.)		Price each		Catalogue No.	Weight (approx.)		Price each		
		lb.	kilos	s.	d.		lb.	kilos	£	s.	d.
2	X <b>5802</b>	1½	.56	<b>10</b>	<b>0</b>	X <b>5812</b>	2½	1.12		<b>19</b>	<b>0</b>
3	X <b>5803</b>	1½	.68	<b>12</b>	<b>0</b>	X <b>5813</b>	3	1.36	<b>1</b>	<b>1</b>	<b>0</b>
4	X <b>5804</b>	1¾	.8	<b>13</b>	<b>8</b>	X <b>5814</b>	3½	1.58	<b>1</b>	<b>3</b>	<b>8</b>
5	X <b>5805</b>	2	.91	<b>18</b>	<b>4</b>	X <b>5815</b>	4	1.81	<b>1</b>	<b>9</b>	<b>0</b>

*For dimensions see page 415.*

## **CIRCULAR TYPE.**

For circuits up to 600 volts.

Mounted on enamelled slate and supplied with back connections only. Insulated stops provided between fixed contacts. Moving contacts laminated. Can also be used for connecting a single ammeter to a number of different shunts in succession.



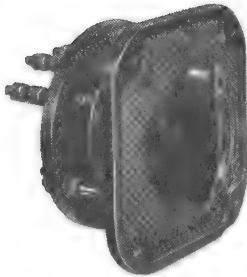
**X 5824**

Double pole										
No. of ways	Catalogue No.	Weight (approx.)		Price each	No. of ways	Catalogue No.	Weight (approx.)		Price each	
		lb.	kilos				lb.	kilos		
2	X <b>5822</b>	2½	1.25	<b>1 15 4</b>	6	X <b>5826</b>	3½	1.58	<b>2 13 8</b>	
3	X <b>5823</b>	2½	1.25	<b>1 19 0</b>	7	X <b>5827</b>	4½	1.92	<b>3 0 0</b>	
4	X <b>5824</b>	3	1.36	<b>2 3 8</b>	8	X <b>5828</b>	4½	2.04	<b>3 8 0</b>	

*For dimensions see page 415.*

# S.E.C.

## AMMETER SWITCH (THREE PHASE)



X 5800

This switch is only suitable when the ammeter is working in conjunction with current transformers. It consists of fixed and moving contacts, the latter being mounted on a bakelite disc. The switch is so constructed that when the ammeter is connected to read the current in one phase, the current transformers in the other two phases are short circuited, as shown on the diagram below.

Catalogue No.	Weight (approx.)		Price each		
	lb.	kilos	£	s.	d.
X 5800	2	.91	2	0	0

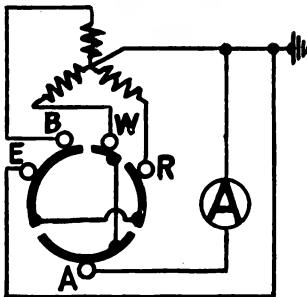
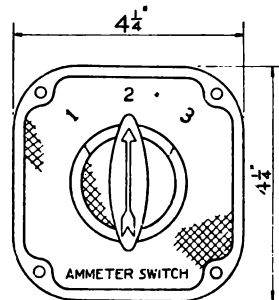
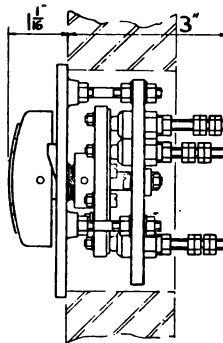


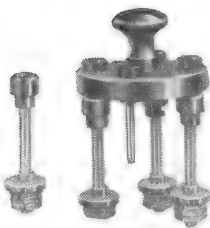
Diagram of connections.



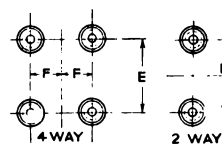
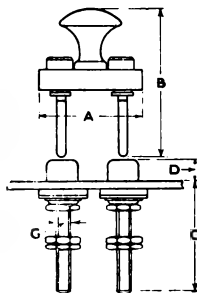
Diagrams of dimensions.

## VOLTMETER PLUGS

Specially suitable for generator switchboards in connection with paralleling or synchronizing apparatus. Brass sockets include washers, screws and locknuts.



X 5831



X 5831

Diagrams of dimensions.

### Plug and Sockets.

Description	Catalogue No.	Dimensions							Weight (approx.)		Price each		
		A	B	C	D	E	F	G	oz.	kilos	£	s.	d.
2 pins	X <b>5830</b>	ins. 3	ins.	ins.	ins.	ins.	in.	in.	6	.17			
4 pins	X <b>5831</b>	4	} 4½	3½	1⅞	1¾	—	} ⅝ Gas	12	.34	1	7	8

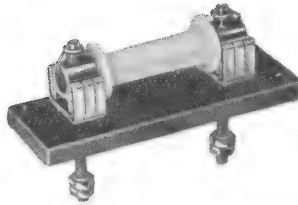
Sockets only (with washers, screws and locknuts) :

2 Pins, Cat. No. X 5833, 6/8 each.

4 Pins, Cat. No. X 5835, 13/4 each.

# BOBBIN CUT-OUTS

For Circuits up to 660 Volts.



**X 5843**

The tubular fuse carrier is of vitreous porcelain, is fitted with an asbestos tube running the whole length, and through this tube the fuse wires are threaded. The carrier contacts are heavy brass castings, and the contact jaws are of H.C. copper. Either back or front connections can be fitted. Unless otherwise specified, back terminals are supplied. Prices include three nuts per stem for back connections, and set screws for front connections.

## Single pole cut-outs.

Carrying capacity	Catalogue	Unmounted				Mounted on base			
		Weight (approx.)		Price each		Weight (approx.)		Price each	
Amps.		lb.	oz.	kilos	£ s. d.	lb.	kilos	£ s. d.	
30	X <b>5840</b>		6	.17	<b>4 8</b>	$\frac{3}{4}$	.35		<b>8 0</b>
40	X <b>5841</b>		9	.25	<b>5 8</b>	1	.45		<b>9 0</b>
60	X <b>5842</b>	1	2	.51	<b>7 0</b>	2	.9		<b>10 6</b>
75	X <b>5842A</b>	1	4	.57	<b>8 8</b>	3	1.36		<b>13 4</b>
100	X <b>5843</b>	2	0	.9	<b>11 6</b>	4	1.81		<b>15 8</b>
150	X <b>5844</b>	2	11	1.22	<b>16 8</b>	6	2.72	<b>1</b>	<b>2 0</b>
200	X <b>5845</b>	3	12	1.7	<b>1 1 4</b>	$7\frac{1}{2}$	3.4	<b>1</b>	<b>7 4</b>
300	X <b>5846</b>	6	2	2.78	<b>1 7 4</b>	10	4.53	<b>1</b>	<b>16 4</b>
400	X <b>5847</b>	8	8	3.85	<b>1 16 0</b>	15	6.8	<b>2</b>	<b>4 8</b>
600	X <b>5848</b>	14	0	6.33	<b>3 10 0</b>	20	9.07	<b>4</b>	<b>7 0</b>

## Spare fuse carriers.

Carrying capacity	Catalogue No.	Weight (approx.)		Price each		
Amps.		lb.	kilos	£	s.	d.
30	X <b>5860</b>	$\frac{1}{2}$	.11		<b>2</b>	<b>6</b>
40	X <b>5861</b>	$\frac{5}{16}$	.14		<b>2</b>	<b>9</b>
60	X <b>5862</b>	$\frac{11}{16}$	.3		<b>3</b>	<b>4</b>
75	X <b>5862A</b>	$\frac{1}{2}$	.4		<b>4</b>	<b>2</b>
100	X <b>5863</b>	1	.45		<b>5</b>	<b>0</b>
150	X <b>5864</b>	$1\frac{1}{2}$	.68		<b>6</b>	<b>4</b>
200	X <b>5865</b>	$2\frac{1}{2}$	1.02		<b>9</b>	<b>4</b>
300	X <b>5866</b>	3	1.36		<b>10</b>	<b>4</b>
400	X <b>5867</b>	$4\frac{1}{2}$	2.04		<b>12</b>	<b>8</b>
600	X <b>5868</b>	6	2.72	<b>1</b>	<b>0</b>	<b>4</b>

**When ordering please state whether unmounted or mounted cut-outs are required.**

For dimensions see page 416.

For Fuse Wiring Table see page 372.

## HANDGUARD CUT-OUTS

For Circuits up to 660 Volts.

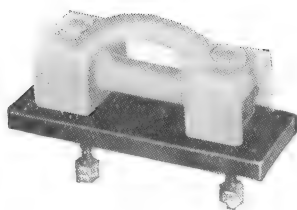
The carrier is of vitreous porcelain, with an asbestos tube fitted concentrically, through which the fuse wires are threaded. It has been designed to comply with Home Office regulations for the use of electricity in factories. The contacts are heavy brass castings, fitted to the porcelain handles in such a manner that a fracture does not occur through the uneven expansion or contraction of the porcelain and brass. The contacts are of the special self-aligning type and will, therefore, adjust themselves to any slight displacement of the contact jaws.

A special cooling arrangement has been included in the design. A space between the asbestos tube and the carrier is provided so as to allow a free current of air to make its exit through the top and sides of the contact blocks, which are specially designed for this purpose.

### Single pole cut-outs.

Carrying capacity	Cat. No.	Unmounted				Mounted on base					
		Weight (approx.)		Price each		Weight (approx.)		Price each			
Amps.		lb.	kilos.	£	s.	d.	lb.	kilos.	£	s.	d.
30	X <b>6640</b>	$\frac{3}{8}$	.25	<b>6</b>	<b>4</b>		1	.45		<b>9</b>	<b>4</b>
40	X <b>6641</b>	1	.45	<b>7</b>	<b>4</b>		1 $\frac{1}{2}$	.78	<b>11</b>	<b>0</b>	
60	X <b>6642</b>	1 $\frac{5}{8}$	.73	<b>10</b>	<b>4</b>		2 $\frac{1}{2}$	1.13	<b>13</b>	<b>8</b>	
75	X <b>6642A</b>	2 $\frac{1}{4}$	1.01	<b>13</b>	<b>8</b>		3 $\frac{1}{2}$	1.59	<b>18</b>	<b>4</b>	
100	X <b>6643</b>	3 $\frac{1}{4}$	1.46	<b>17</b>	<b>0</b>		4 $\frac{1}{2}$	2.15	<b>1</b>	<b>1</b>	<b>8</b>
150	X <b>6644</b>	4 $\frac{1}{2}$	2.02	<b>1</b>	<b>4</b>	<b>0</b>	7	3.17	<b>1</b>	<b>10</b>	<b>4</b>
200	X <b>6645</b>	5 $\frac{7}{8}$	2.64	<b>1</b>	<b>10</b>	<b>4</b>	8 $\frac{1}{2}$	3.85	<b>1</b>	<b>16</b>	<b>8</b>
300	X <b>6646</b>	9 $\frac{1}{2}$	4.27	<b>2</b>	<b>0</b>	<b>8</b>	12	5.4	<b>2</b>	<b>9</b>	<b>8</b>
400	X <b>6647</b>	14	6.28	<b>3</b>	<b>0</b>	<b>0</b>	18 $\frac{1}{2}$	8.3	<b>3</b>	<b>8</b>	<b>8</b>
600	X <b>6648</b>	23	10.3	<b>5</b>	<b>15</b>	<b>0</b>	30	13.5	<b>6</b>	<b>12</b>	<b>0</b>

### Spare fuse carriers.



X **6643**



X **6663**

Carrying capacity	Cat. No.	Weight (approx.)		Price each		
Amps.		lb.	kilos.	£	s.	d.
30	X <b>6660</b>	$\frac{3}{8}$	.17		<b>4</b>	<b>0</b>
40	X <b>6661</b>	$\frac{3}{4}$	.34		<b>4</b>	<b>8</b>
60	X <b>6662</b>	1 $\frac{1}{4}$	.46		<b>6</b>	<b>6</b>
75	X <b>6662A</b>	1 $\frac{3}{4}$	.79		<b>9</b>	<b>4</b>
100	X <b>6663</b>	2 $\frac{1}{4}$	1.05		<b>10</b>	<b>8</b>
150	X <b>6664</b>	3	1.36		<b>14</b>	<b>8</b>
200	X <b>6665</b>	4 $\frac{1}{4}$	1.93		<b>18</b>	<b>8</b>
300	X <b>6666</b>	6 $\frac{1}{2}$	2.95	<b>1</b>	<b>4</b>	<b>0</b>
400	X <b>6667</b>	9 $\frac{1}{2}$	4.31	<b>1</b>	<b>16</b>	<b>4</b>
600	X <b>6668</b>	14 $\frac{1}{2}$	6.58	<b>3</b>	<b>6</b>	<b>0</b>

When ordering please state whether unmounted or mounted cut-outs are required.

Sweating sockets extra (see page 398.)

For dimensions see page 416.

For Fuse Wiring Table see page 372.

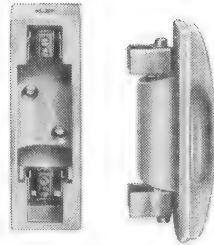
# CHINA UNIT CUT-OUTS

**HOME OFFICE TYPE.**

**For Circuits up to 500 Volts.**



**X 5772**



**X 5772**

The fuse carrier and base are of best English vitreous porcelain, the carrier being provided with an asbestos tube through which the fuse wires are threaded. The fuse carrier contacts are hard drawn copper clips in the 15 and 20 amp. sizes, and self-aligning solid brass blocks in the larger sizes. The base contacts are adequately shielded and in the smaller sizes consist of brass blocks, and H.C. copper with brass terminal blocks securely riveted and brazed in the larger sizes. All units are fitted with back terminals, but in all sizes they are also suitable for front wiring.

Carrying capacity	Cat. No.	Weight (approx.)		Price each		
		lb.	kilos.	£	s.	d.
Amps.						
15	X <b>5770</b>	$\frac{1}{2}$	0.23		<b>2</b>	<b>0</b>
20	X <b>5771</b>	1	0.45		<b>2</b>	<b>4</b>
30	X <b>5772</b>	$1\frac{1}{2}$	0.68		<b>3</b>	<b>6</b>
60	X <b>5773</b>	2	0.90		<b>5</b>	<b>6</b>
100	X <b>5774</b>	$3\frac{1}{2}$	1.58		<b>7</b>	<b>6</b>
150	X <b>5775</b>	7	3.16	<b>1</b>	<b>1</b>	<b>4</b>
200	X <b>5776</b>	$9\frac{1}{2}$	4.31	<b>1</b>	<b>5</b>	<b>4</b>

## DIMENSIONS.

Cat. No.	Dimensions of fuse			Centres of stems	Length of stems	Size of stems	Length of break
	Height	Width	Projection				
	ins.	ins.	ins.	ins.	ins.		ins.
X <b>5770</b>	$2\frac{5}{8}$	$1\frac{3}{16}$	2	$1\frac{7}{8}$	$1\frac{7}{8}$	3 BA	$1\frac{1}{2}$
X <b>5771</b>	$3\frac{3}{4}$	$1\frac{1}{2}$	$2\frac{1}{16}$	$2\frac{3}{8}$	$1\frac{7}{8}$	2 BA	$2\frac{1}{8}$
X <b>5772</b>	$4\frac{1}{2}$	$1\frac{1}{2}$	$2\frac{9}{16}$	3	$2\frac{1}{4}$	0 BA	$2\frac{1}{2}$
X <b>5773</b>	6	$1\frac{3}{16}$	$2\frac{1}{8}$	$5\frac{1}{16}$	$2\frac{5}{8}$	$\frac{5}{16}$ " Whit.	3
X <b>5774</b>	7	2	$3\frac{3}{8}$	$4\frac{1}{2}$	3	$\frac{3}{8}$ " Whit.	$3\frac{3}{8}$
X <b>5775</b>	$7\frac{5}{8}$	$2\frac{7}{8}$	$4\frac{1}{16}$	$5\frac{1}{4}$	$3\frac{3}{4}$	$\frac{7}{16}$ " Whit.	$4\frac{3}{16}$
X <b>5776</b>	$8\frac{3}{4}$	$3\frac{1}{2}$	$5\frac{1}{4}$	6	$3\frac{1}{8}$	$\frac{1}{2}$ " Whit.	$4\frac{3}{16}$

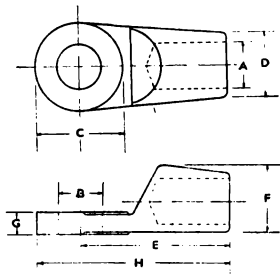
When required as voltmeter fuses, X **5770** can be supplied in black porcelain at 2s. 8d. each.

*For Fuse Wiring Table see page 372.*

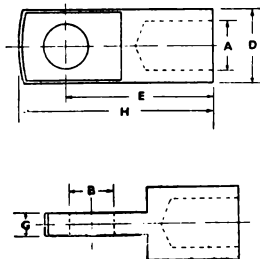
# E.E.C.

## SWEATING TERMINAL SOCKETS

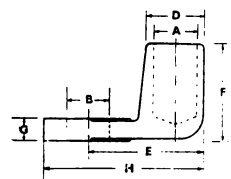
(BRASS).



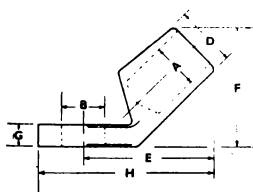
Type B (Cast).



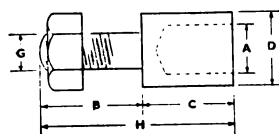
Type P (Turned).



Type C (Cast).



Type E (Cast).



Type T (Turned).

Type	Capacity		Cat. No.	Dimensions								Price per dozen		
	At 1000 per sq. in.	I.E.E. rating for V.I.R.		A	B	C	D	E	F	G	H	£	s.	d.
B	Amprs.	Amprs.	X	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.			
	30	53	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
	60	83	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
	100	118	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
	200	184	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
	300	240	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
	400	288	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
	600	384	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
	800	512	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
	1000	595	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
C	30	53	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
	60	83	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
	100	118	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
	200	184	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
	300	240	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
	400	288	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
	600	384	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
	800	512	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
	1000	595	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
E	30	53	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
	60	83	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
	100	118	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
	200	184	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
	300	240	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
	400	288	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
	600	384	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
	800	512	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
	1000	595	X	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8			
P	30	53	X	1 1/8	1 1/8	—	1 1/8	1 1/8	—	1 1/8	1 1/8			
	60	83	X	1 1/8	1 1/8	—	1 1/8	1 1/8	—	1 1/8	1 1/8			
	100	118	X	1 1/8	1 1/8	—	1 1/8	1 1/8	—	1 1/8	1 1/8			
	200	184	X	1 1/8	1 1/8	—	1 1/8	1 1/8	—	1 1/8	1 1/8			
	300	240	X	1 1/8	1 1/8	—	1 1/8	1 1/8	—	1 1/8	1 1/8			
	400	288	X	1 1/8	1 1/8	—	1 1/8	1 1/8	—	1 1/8	1 1/8			
T	30	53	X	1 1/8	1 1/8	1 1/8	1 1/8	—	—	W	1 1/8			
	60	83	X	1 1/8	1 1/8	1 1/8	1 1/8	—	—	W	1 1/8			
	100	118	X	1 1/8	1 1/8	1 1/8	1 1/8	—	—	W	1 1/8			
	200	184	X	1 1/8	1 1/8	1 1/8	1 1/8	—	—	W	1 1/8			

## MECHANICAL TERMINAL SOCKETS (CONE TYPE).

FOR CONNECTION TO COPPER OR ALUMINIUM CONDUCTORS.



X 3501/3 For copper conductors.

X 3505/9 For aluminium conductors

Conductor accommodated.			Cat. No.	Dia. of bolt hole	Price each	
Description	Max. Size	Min. Size				
	in.	in.		in.	s.	d.
Copper...	$\frac{1}{2}$	$\frac{3}{32}$	X 3501	$\frac{3}{32}$	1	10
	$\frac{3}{8}$	$\frac{1}{16}$	X 3502		2	4
	$\frac{1}{2}$	$\frac{1}{8}$	X 3503		3	0
	$\frac{5}{8}$	$\frac{3}{16}$	X 5304		4	8
	$\frac{3}{4}$	$\frac{1}{4}$	X 3505	$\frac{1}{2}$	10	4
Aluminium	$\frac{3}{8}$	$\frac{3}{32}$	X 3506		12	2
	$\frac{1}{2}$	$\frac{1}{16}$	X 3507		14	0
	$\frac{5}{8}$	$\frac{1}{8}$	X 3508		16	0
	$\frac{3}{4}$	$\frac{3}{16}$	X 3509		18	0
	$\frac{7}{8}$	$\frac{1}{2}$		$\frac{3}{4}$		

## CABLE CONNECTORS



X 5990/1

X 5992/3

Brass cable connectors with two slotted screws in the two smaller sizes and four slotted screws in the two larger sizes.

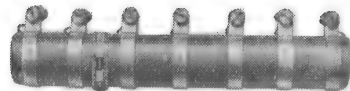
Capacity		Cat. No.	Size of cable accommodated	Dia. of bore	Overall dimensions		Weight (approx.)	Price per dozen	
At 1000 amps. per sq. in.	I.E.E. rating for V.I.R.				Dia.	Length			
Amps.	Amps.			ins.	ins.	ins.	oz. grmms	£	s. d.
30	53	X 5990	7/.064 or 19/.044	$\frac{1}{4}$	$\frac{1}{8}$	1 $\frac{1}{2}$	1 30	4	4
60	83	X 5991	9/.052 or 19/.064	$\frac{3}{8}$	$\frac{1}{8}$	1 $\frac{1}{2}$	2 60	7	0
100	118	X 5992	19/.083	$\frac{1}{2}$	1	2 $\frac{1}{2}$	9 260	1	3 0
200	184	X 5993	37/.083	$\frac{1}{2}$	1 $\frac{1}{2}$	2 $\frac{1}{2}$	14 400	2	11 0

## WIRE-WOUND RESISTANCES



Type A.

Copper flex connections (untapped).



Type D.

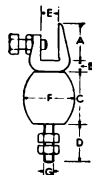
Connecting bands, nuts and washers (tapped).

G.E.C. vitreous enamelled resistances are recommended for use in cases where fixed resistances are required. They are manufactured in six standard types, two of which are illustrated above, and any value of resistance and capacity can be obtained by connecting individual tubes in series or in parallel.

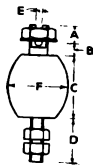
The resistances are wound with nickel-copper resistance wire on porcelain tubes, capable of withstanding a high firing temperature; the flexible copper connections are electrically welded to the resistance winding, thus ensuring perfect electrical continuity. A non-hygroscopic covering, having high insulating properties, is provided by a coating of vitreous enamel fired at a temperature of 700°C.

*Ratings and prices on application.*

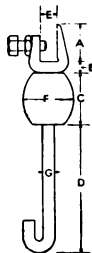
## BUS-BAR INSULATORS



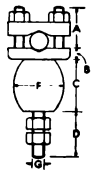
X 1480/5 &  
X 1520/2/4



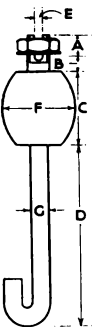
X 1486 &  
X 1526



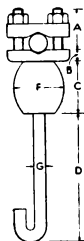
X 1481/3/5 &  
X 1521/3/5



X 1488/90 &  
X 1528/30



X 1487 &  
X 1527



X 1489/91 &  
X 1529/31

The busbar insulators listed below consist of various forms of malleable iron supports fixed in porcelain insulators, with supports either for bolting to an angle iron support or for grouting into a wall. They are stocked with two sizes of porcelain insulators, suitable for 3,300 or 6,600 volts respectively. The illustrations show the 3,300 volt insulators.

Voltage	Cat. No.	Largest bar taken	Price each	
3,300 Type III	X 1480	1 1/2 x 1 1/2	s.	d.
	X 1481	1 1/2 x 1 1/2	4	8
	X 1482	3 x 3	5	8
	X 1483	3 x 3	6	0
	X 1484	3 x 1 1/2	6	4
	X 1485	3 x 1 1/2	6	8
	X 1486	1 1/2 dia.	5	8
	X 1487	1 1/2 dia.	5	8
	X 1488	1 1/2 dia.	5	8
	X 1489	1 1/2 dia.	7	0
	X 1490	1 1/2 dia.	8	0
	X 1491	1 1/2 dia.	7	8
6,600 Type V	X 1520	1 1/2 x 1 1/2	6	0
	X 1521	1 1/2 x 1 1/2	6	4
	X 1522	3 x 3	7	2
	X 1523	3 x 3	7	0
	X 1524	3 x 1 1/2	8	0
	X 1525	3 x 1 1/2	7	8
	X 1526	1 1/2 dia.	6	8
	X 1527	1 1/2 dia.	6	4
	X 1528	1 1/2 dia.	8	0
	X 1529	1 1/2 dia.	8	0
	X 1530	1 1/2 dia.	8	8
	X 1531	1 1/2 dia.	8	4

### DIMENSIONS.

Cat. No.	A	B	C	D	E	F	G
	ins.	ins.	ins.	ins.	ins.	ins.	ins.
X 1480	1	2 1/2	2 1/2	1 1/2	2 1/2	2 1/2	1 1/2
X 1481	1			6 1/2			
X 1482	2			1 1/2			
X 1483	2			6 1/2			
X 1484	2			2 1/2			
X 1485	2			6 1/2			
X 1486	1 1/2			1 1/2			
X 1487	1 1/2			6 1/2			
X 1488	1 1/2			1 1/2			
X 1489	1 1/2			6 1/2			
X 1490	2 1/2			2 1/2			
X 1491	2 1/2			6 1/2			
X 1520	1	4 1/2	4 1/2	2 1/2	3	3	1 1/2
X 1521	1			2 1/2			
X 1522	2			6 1/2			
X 1523	2			2 1/2			
X 1524	2			6 1/2			
X 1525	2			2 1/2			
X 1526	1 1/2			6 1/2			
X 1527	1 1/2			1 1/2			
X 1528	1 1/2			6 1/2			
X 1529	2 1/2			2 1/2			
X 1530	2 1/2			6 1/2			
X 1531	2 1/2			6 1/2			

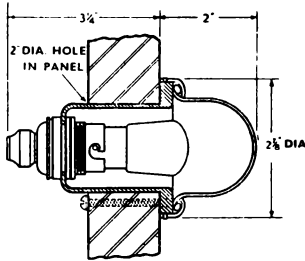
Bus bar supports for heavy capacity bars, consisting of a horizontal angle iron base with end clamps, slate barrier blocks and distance pieces and 1/2 in. micanite insulating plates. Cat. No. X 1538, Price £4 5 0 each.

For bus-bar connecting clamps see page 402.



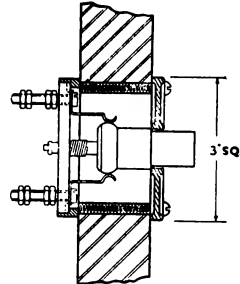
# SWITCHBOARD ACCESSORIES

## INDICATOR LAMP FITTING



**X 1775**

## PUSH BUTTON SWITCHES FOR FLUSH MOUNTING 1 AMP.



**X 1778**

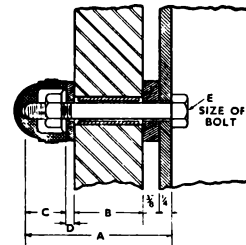
Catalogue No.	Price each (excluding lamp)	
	s.	d.
<b>X 1775</b>	<b>7</b>	<b>6</b>

Catalogue No.	Description	Price each		
		£	s.	d.
<b>X 1778</b>	One-way ..	<b>2</b>	<b>6</b>	<b>0</b>
<b>X 1779</b>	Two-way ..	<b>3</b>	<b>3</b>	<b>0</b>

## INSULATED SLAB FIXING BOLTS

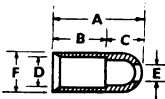
Mild steel bolt, nuts and washer ; insulating bush, fuse and cap nut.

Catalogue No.	Dimensions					Price per doz.		
	A	B	C	D	E	£	s.	d.
<b>X 1776</b>	ins. 3 1/2	ins. 2	7/8	1/4	3/8 W	<b>1</b>	<b>14</b>	<b>0</b>
	3 1/4	1 1/2						
	3	1 1/4						
	2	1						
	3 7/8	2						
<b>X 1777</b>	3 3/8	1 1/2	1	1/2	1/2 W	<b>1</b>	<b>19</b>	<b>0</b>
	3 1/8	1 1/4						
	2 7/8	1						
	2 7/8	1						



**X1776/7**

When ordering state dimensions A or B.

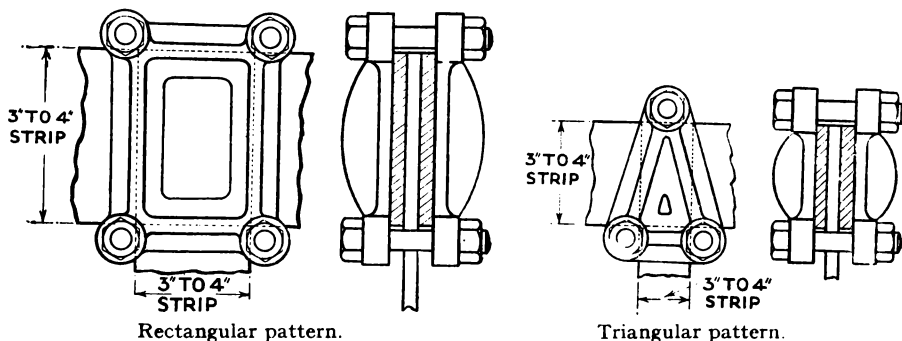


## CABLE END PIECES (BLACK BAKELITE).

Size No.	For single core V.I.R. cables up to	Dimensions						Price per gross	
		A	B	C	D	E	F	s.	d.
1	No./ins. 7/.029	3/4	7/16	5/16	.2	.095	.305	<b>14</b>	<b>0</b>
2	7/.044				.25	.135	.335	<b>17</b>	<b>8</b>
3	7/.052				.285	.16	.375	<b>19</b>	<b>4</b>

## SWITCHBOARD ACCESSORIES

### BUS-BAR CONNECTING CLAMPS



#### RECTANGULAR PATTERN.

Size of bars.		Malleable Iron			Gunmetal		
Main	Branch	Cat. No.	Price per set		Cat. No.	Price per set	
ins.	ins.		s.	d.		s.	d.
2	2	X 1741	6	4	X 1747	8	4
3	2	X 1742	7	4	X 1748	9	6
3	3	X 1743	7	6	X 1749	11	0
4	2	X 1744	7	6	X 1750	11	0
4	3	X 1745	8	0	X 1751	12	0
4	4	X 1746	8	4	X 1752	12	8

#### TRIANGULAR PATTERN.

Size of bars		Malleable Iron			Gunmetal		
Main	Branch	Cat. No.	Price per set		Cat. No.	Price per set	
ins.	ins.		s.	d.		s.	d.
2	1	X 1761	2	8	X 1767	4	6
2	2	X 1762	3	8	X 1768	5	2
3	1	X 1763	3	4	X 1769	6	0
3	3	X 1764	4	4	X 1770	8	0
4	2	X 1765	4	2	X 1771	7	8
4	3	X 1766	5	0	X 1772	8	4

Each set consists of two clamps, with 3in. fixing bolts, nuts and washers.

*For bus-bar supports see page 400.*

### SMALL WIRING CLEATS

No. of ways	Price per gross		
	£	s.	d.
2		18	8
3	1	0	8
4	1	10	8

### SMALL WIRING CLIPS

An extremely useful device for securing the small wiring at the back of switchboards.

Price, 3s. 9d. per gross.

# SWITCHBOARD ACCESSORIES

Description	Price
Wrought iron frames, 7ft. 6in. high × 2ft. 6in. wide, with two stays and two foundation bolts ..	<div>£ s. d.</div> <div><b>3 6 0</b> each</div>
Angle iron stays, 3ft. long .. .. .	<b>7 8</b> each
Ditto . 6ft. long .. .. .	<b>11 6</b> each
Angle iron brackets (8in. long) for supporting one bus-bar insulator .. .. .	<b>4 0</b> each
Ditto (12in. long) for two insulators .. .. .	<b>5 10</b> each
Angle brackets for fixing angle iron uprights to channel iron base :	
Size 2 × 1½ × ½in. .. .. .	<b>5 6</b> per doz.
Size 3 × 2 × ½in. .. .. .	<b>8 6</b> per doz.
Strip micanite, 2 × ½in. for insulating underside of panels from angle iron support .. .. .	<b>2 9</b> per ft.
X <b>1585</b> Expanded metal screens, No. 18 expanded metal ½in. strand, ½in. mesh, with channel iron frame (net weight, 1½lb. per sq. ft.). Minimum price, 12/- .. .. .	<b>5 8</b> per sq. ft.
X <b>1595</b> Expanded metal doors with lock and key on outside and handle on inside in accordance with Home Office Regulations; supplied either left or right handed. Made of No. 18 expanded metal with channel iron frame, 7ft. 4in. × 2ft. .. .. .	<b>4 6 4</b> each
Collapsible gates, 7ft. 6in. by 4ft. 6in., with runners and locks for enclosing ends of switchboards ..	<b>10 6 6</b> each
Wrought iron scrollwork for one 12in. dial Clock ..	<b>2 7 0</b> each
Ditto for one Clock and two Voltmeters .. ..	<b>7 1 0</b> each
Clock, 8-day, 12in. .. .. .	<b>15 0 0</b> each
Ditto, 15in. .. .. .	<b>23 8 0</b> each
Lamp bracket, holder, shade, switch and fuses ..	<b>18 8</b> each
Brass name plate, 4in. × 2in. with customer's name	<b>9 4</b> each
Ditto, 6in. × 3in. with customer's name	<b>13 0</b> each
Brass name plate, 2in. × ½in. (10 letters maximum) ..	<b>1 6</b> each
Ivory name plate, 1½in. × ½in. (ditto)	<b>1 4</b> each
Ditto, 1½in. × ½in. .. .. .	<b>1 6</b> each

## SWITCHBOARD ACCESSORIES

### PANELS

#### SLATE.

Description	Thickness	Price per sq. foot. Above 1ft. super but not exceeding		
		4ft. 6in. by 2ft. 3in.	6ft. 6in. by 3ft. 3in.	7ft. 6in. by 3ft. 3in.
Plain ..	ins. 1½	s. 8 d. 6	s. 10 d. 0	£ 10 s. 8
	1½	9 8	10 8	11 8
	2	11 0	12 10	14 2
	1½	12 6	14 2	15 0
Enamelled ..	1½	14 2	15 6	18 4
	2	16 0	16 8	1 0 4
	2	16 0	16 8	1 0 4

**Extras:**—Enamelling slates on the back, 5s. 4d. per ft. Bevelling edges, 11d. per lineal foot.

#### MARBLE.

Above 1 foot super, but not exceeding  
7ft. 6in. by 3ft. 0in.

Thickness	Price per sq. foot	
ins.	s.	d.
1½	12	6
1½	14	6
2	17	8

Bevelling Edges, 10d. per lineal foot extra.

**Extras :—**

Thickness	Cutting (per lineal ft.)	Bevelling (per lineal ft.)	Enamelling (per lineal ft.)
ins.	d.	d.	s. d.
¾	3	} 2	1 10
1	4		
1½	5		
1½	6		

#### SINDANYO.—EBONY GRADE.

Mechanical strength 1in. panels=1½in. slate panels.

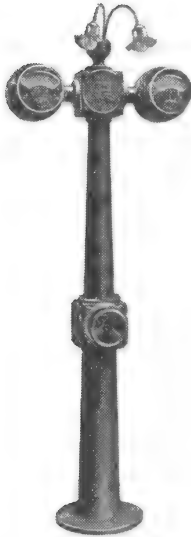
Thickness	Basis prices (subject to extras for cutting, bevel- ling and enamelling) per sq. foot	
ins.	s.	d.
¾	9	0
1	10	8
1½	12	10
1½	15	0

#### BUS-BARS.

The prices given below are approximate only to serve as a guide for estimating for complete boards from component panels; firm prices will be quoted on application. Prices include high conductivity copper bars, insulators, and supports; the insulators supplied will be suitable for the voltage of the board ordered.

Catalogue No.	Size of bar	Weight (approx.) per foot run		Price per foot run	
	ins.	lb.	kilos	s.	d.
X 1460	1 × ½	2	.9	3	8
X 1461	1½ × ½	2	.9	4	8
X 1462	2 × ½	3	1.36	5	8
X 1463	3 × ½	4	1.81	7	6
X 1464	4 × ½	4	1.81	9	4

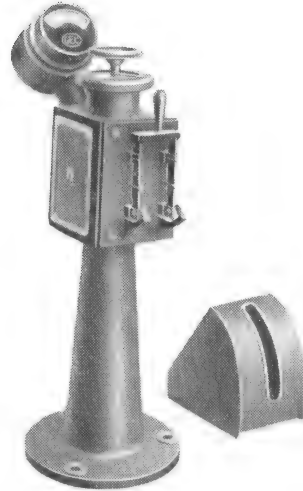
## HANDWHEEL AND METER PILLARS FOR STARTER OR SHUNT REGULATOR CONTROL



**X 1623** Type L.  
Field control pillar with single handwheel for chain control, ammeter, voltmeter, and lights.



**X 1621** Type S.  
Field control pillar with single handwheel.



**X 1625** Type F.  
Field control pillar with single handwheel, ammeter, and field switch, with cover removed.

Where it is not convenient to mount the Exciter regulating apparatus on the main switchboard, provision has to be made for placing it in close proximity thereto. For this purpose cast iron pillars or columns are supplied, from which the resistance and regulating switches are controlled. These latter are usually placed under the switchboard gallery. This method of construction is specially recommended for high tension work when boards are not provided with separate remote operating panels.

Cat. No.	Type	Description	Price of single handwheel pillar
<b>X 1621</b>	S.	1 cast-iron pillar .. .. . 1 nickel-plated handwheel .. .. . 1 mild steel shaft, $\frac{1}{2}$ in. diameter, 6ft. long .. .. . 1 half coupling .. .. .	£ s. d. <b>6 11 0</b>
<b>X 1623</b>	L.	Cast iron pillar in halves, with bracket to hold instruments Double arm lamp brackets (price is exclusive of lamps, holders and shades) .. .. . Nickel-plated handwheel and sprocket wheel, 1in. pitch .. .. . Inspection covers in middle and top to facilitate wiring .. .. .	£ s. d. <b>17 16 0</b>
<b>X 1625</b>	F.	Similar to Type S, but can be fitted with single or double meter attachment, vertical indicator, etc. .. .. .	£ s. d. <b>9 7 0</b>

### EXTRAS.

Cat. No.	Concentric handwheel	S.P. field brk. sw. 100 amp.	D.P. field brk. sw. 100 amp.	Single meter att. exclud. meter	Double meter att. exclud. meter	Vertical indicator	Bevel gears per pair with bracket
<b>X 1621</b>	£ s. d. <b>6 0 0</b>	£ s. d. <b>5 12 0</b>	£ s. d. <b>9 7 0</b>	£ s. d. <b>1 17 4</b>	£ s. d. <b>3 7 8</b>	£ s. d. <b>2 17 0</b>	£ s. d. <b>3 15 0</b>
<b>X 1623</b>	£ s. d. <b>6 0 0</b>	£ s. d. <b>5 12 0</b>	£ s. d. <b>9 7 0</b>	£ s. d. <b>1 17 4</b>	£ s. d. <b>3 7 8</b>	£ s. d. <b>2 17 0</b>	£ s. d. <b>3 15 0</b>
<b>X 1625</b>	£ s. d. <b>6 0 0</b>	£ s. d. <b>5 12 0</b>	£ s. d. <b>9 7 0</b>	£ s. d. <b>1 17 4</b>	£ s. d. <b>3 7 8</b>	£ s. d. <b>2 17 0</b>	£ s. d. <b>3 15 0</b>

Vertical indicator can only be supplied for single handwheel type and when no field switch is fitted.

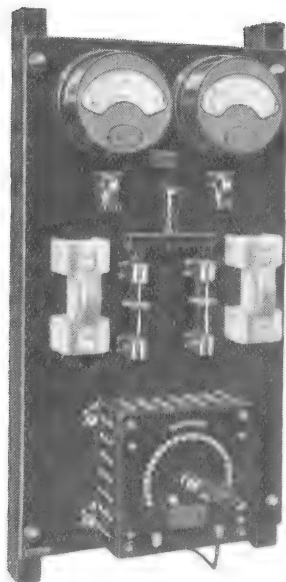
Prices are exclusive of instruments and wiring. Dimensions and weights on application.

## SMALL D.C. SWITCHBOARDS

### GENERATOR PANELS

#### TYPE "Q"

Up to 440 Volts.



X 803 With shunt regulator.

**Specification.**—The switchboard consists of a sindanyo slab, enamelled on the face and all edges, having mounted thereon :—

1 M.I. dead beat ammeter. 1 M.I. dead beat voltmeter. 2 single-pole voltmeter cut-outs. 1 double-pole WITTON knife switch. 2 single-pole fuses.

Boards up to and including 100 amps. have 3½ in. dial instruments and china unit fuses, and above 100 amps. 6 in. dial instruments and "Handguard" fuses.

The board is supplied complete with copper strip back connections and sweating sockets for cable, and mounted on two teak battens for wall mounting.

Capacity	110 Volts		220 Volts		440 Volts	
	Cat. No.	Price each	Cat. No.	Price each	Cat. No.	Price each
Amps.		£ s. d.		£ s. d.		£ s. d.
30	X 800	9 8 0	X 810	9 14 0	X 820	10 2 0
60	X 801	10 6 0	X 811	10 11 0	X 821	10 19 0
100	X 802	11 16 0	X 812	12 0 0	X 823	12 8 0
200	X 803	19 18 0	X 813	20 4 0	X 824	20 12 0

#### Extras.

Board with space for shunt regulator :—

30 amps. ..	18s. 0d.	100 amps. ..	19s. 0d.
60 amps. ..	18s. 0d.	200 amps. ..	£1 8s. 0d.

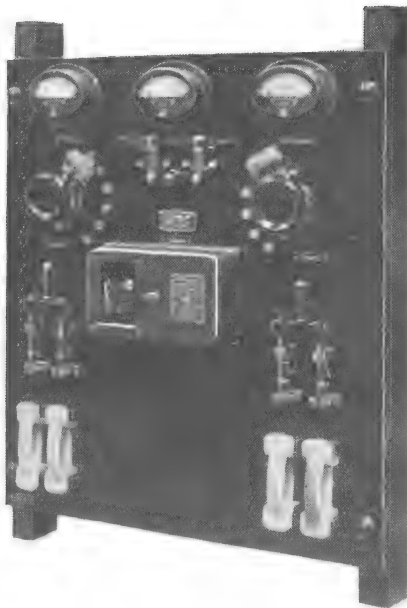
For diagram of connections, dimensions and weights see page 417.

## SMALL D.C. SWITCHBOARDS GENERATOR AND BATTERY PANELS

### TYPE "G.B. JUNIOR."

**Up to 28 Amps. Up to 110 Volts.**

Type "G.B. Junior" switchboards are specially designed for the control of self-contained electric lighting sets and small power equipment including generator and battery. Special attention has been given to the simplification of switchgear and connections, so as to be suitable for manipulation by unskilled labour. When the generator switch is opened, the generator is completely isolated from the battery, thus enabling repairs and adjustments to be carried out with safety. With these boards it is possible to charge battery only, discharge battery only, or charge battery and supply light and power simultaneously.



**X 1034**

**Specification.** The switchboard consists of a sindanyo slab, enamelled on the face and all edges, having mounted thereon:—1 3in. dial oval M.I. dead beat ammeter, 3—30 amperes, for charge circuit. 1 3in. dial oval M.I. dead beat ammeter, 3—30 amperes, for discharge circuit. 1 3in. dial oval M.I. dead beat voltmeter (range 8—40 volts for 25-volt, 15—80 volts for 50-volt, and 30—160 volts for 110-volt boards). 1 three-way double pole radial type voltmeter switch. 1 battery regulating switch, with auxiliary brush and resistance to prevent the short circuiting of adjacent cells when moving from one contact to another, for charge circuit. 1 battery regulating switch, with auxiliary brush and resistance to prevent the short circuiting of adjacent cells when moving from one contact to another, for discharge circuit. (N.B.—4-way battery regulating switches on 25 and 50-volt boards, 6-way regulators on 110-volt boards). 1 SALFORD automatic battery cut-in and cut-out, enclosed type. 1 double pole WITON quick-break knife switch, and 2 single pole china unit fuses, for generator. 1 double-pole WITON quick-break knife switch, and 2 single pole china unit fuses, for load. Space for shunt regulator.

The board is supplied complete with labels, copper strip back connections, and sweating sockets for cables, and mounted on two teak battens for wall mounting.

Capacities		25 Volts		50 Volts		110 Volts	
Normal	Charge or discharge	Cat. No.	Price each	Cat. No.	Price each	Cat. No.	Price each
Amps. 20	Amps. 28	X 1004	£ 17 4 0	X 1024	£ 17 4 0	X 1034	£ 18 12 0

NOTE.—Shunt Regulators for use with above switchboards should be selected to suit the generator to be used ; prices on application. If shunt regulators are required, the resistance of the shunt field winding must be stated ; standard shunt regulators will reduce the field current to one-half maximum value.

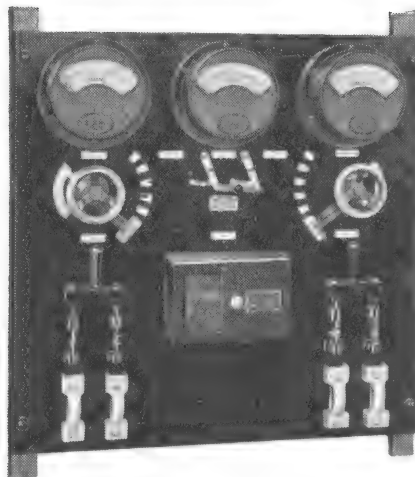
*For diagrams of connections, dimensions and weights see page 417.*

# S.E.C.

## SMALL D.C. SWITCHBOARDS GENERATOR AND BATTERY PANELS

**TYPE "G.B. SENIOR." Above 30 Amps. Up to 110 Volts.**

These switchboards have similar features to the "G.B. Junior" type (page 407).



X 1007

**Specification.** The switchboard consists of a sindanyo slab, enamelled on the face and all edges, having mounted thereon :—1 M.I. dead beat ammeter, for charge circuit (range 5—50 amperes for 30-ampere, 8—80 amperes for 50-ampere, 15—150 amperes for 100-ampere, 20—200 amperes for 150-ampere, and 25—250 amperes for 200-ampere boards. 1 M.I. dead beat ammeter, for discharge circuit (range as above). 1 M.I. dead beat voltmeter (range 8—40 volts for 25-volt, 15—80 volts for 50-volt, and 30—160 volts for 110-volt boards). 1 three-way double pole radial type voltmeter switch. 1 six-way battery regulating switch, with auxiliary brush and resistance to prevent the short-circuiting of adjacent cells when moving from one contact to another, for charge circuit. 1 six-way battery regulating switch, with auxiliary brush and resistance to prevent the short-circuiting of adjacent cells when moving from one contact to another, for discharge circuit. 1 SALFORD automatic battery cut-in and cut-out, enclosed type. 1 double pole WITTON knife switch, and 2 single pole porcelain fuses, for generator. 1 double pole WITTON knife switch, and 2 single pole porcelain fuses, for load. Space for shunt regulator.

Boards up to and including 100 amps. have 3½ in. dial instruments and china unit fuses, and above 100 amps. 6 in. dial instruments and "Handguard" fuses.

The board is supplied complete with labels, copper strip back connections, and sweating sockets for cables, and mounted on two teak battens for wall mounting.

Capacity		25 Volts			50 Volts			110 Volts		
Normal	Charge or discharge	Cat. No.			Cat. No.			Cat. No.		
		Price each			Price each			Price each		
Amps.	Amps.	X	£	s. d.	X	£	s. d.	X	£	s. d.
30	40	X	1005	23 0 0	X	1025	23 0 0	X	1035	23 18 0
50	70	X	1006	28 8 0	X	1026	28 8 0	X	1036	29 5 0
100	120	X	1007	45 0 0	X	1027	45 0 0	X	1037	46 0 0
150	160	X	1008	55 18 0	X	1028	55 18 0	X	1038	56 15 0
200	200	X	1009	57 15 0	X	1029	57 15 0	X	1039	58 15 0

Extra for 6 in. instead of 3½ in. dial instruments, Catalogue Number X 1005 and X 1006, £1 10 4, X 1007, 18s. 4d.

For diagrams of connections, dimensions and weights see page 417.

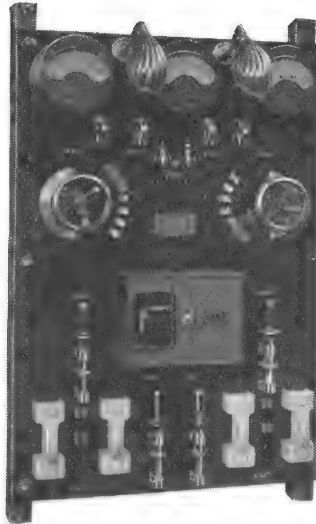


# SMALL D.C. SWITCHBOARDS

## TYPE "A.T.A."

Above 30 Amps.

Up to 110 Volts.



X 1143

Type "A.T.A." boards give full protection to both battery and generator. With these boards it is possible to charge battery only, discharge battery only, supply load direct from generator, or charge battery and supply light and power load simultaneously.

**Specification.** The switchboard consists of a sindanyo slab, enamelled on the face and all edges, having mounted thereon:—1 M.I. dead beat ammeter, for charge circuit. 1 M.I. dead beat ammeter for discharge circuit. 1 M.I. dead beat voltmeter. 1 double pole radial pattern voltmeter switch. 2 single pole cut-outs for voltmeter. 1 six-way battery charge and discharge regulating switch. 1 Salford automatic battery cut-in and cut-out, enclosed type. 2 single pole change-over WITTON knife switches, for battery charging and running direct. 2 single pole WITTON knife switches. 4 single pole fuses. 2 single pole cut-outs for lamp circuits. 2 lamp brackets.

Boards up to and including 100 amps. have 3½ in. dial instruments and china unit fuses, and above 100 amps., 6 in. dial instruments and "Handguard" fuses.

The board is supplied complete with labels, copper strip back connections, and sweating sockets for cables, and mounted on two teak battens for wall mounting.

Capacity	50 Volts					110 Volts				
	Cat. No.	Price each				Cat. No.	Price each			
Amps.		£	s.	d.		£	s.	d.		
30	X <b>1130</b>	<b>33</b>	<b>12</b>	<b>0</b>	X <b>1140</b>	<b>34</b>	<b>16</b>	<b>0</b>		
50	X <b>1131</b>	<b>38</b>	<b>14</b>	<b>0</b>	X <b>1141</b>	<b>40</b>	<b>0</b>	<b>0</b>		
100	X <b>1132</b>	<b>51</b>	<b>10</b>	<b>0</b>	X <b>1142</b>	<b>52</b>	<b>18</b>	<b>0</b>		
150	X <b>1133</b>	<b>67</b>	<b>10</b>	<b>0</b>	X <b>1143</b>	<b>68</b>	<b>16</b>	<b>0</b>		
200	X <b>1134</b>	<b>71</b>	<b>6</b>	<b>0</b>	X <b>1144</b>	<b>72</b>	<b>12</b>	<b>0</b>		

NOTE.—Shunt Regulators for above boards should be selected to suit the generator to be used and mounted separately on walls (see page 391).

For diagrams of connections, dimensions and weights see page 417.

## EMERGENCY LIGHTING CONTROL BOARDS

(Patent No. 377671).

One of the principal factors necessitating the use of emergency lighting systems in theatres and other public buildings is the regulation stipulating that a separate source of supply, independent of the public mains, must be provided. The regulation also states that any switchgear incorporated must be such that the supply to the emergency lighting circuit cannot be interrupted in any way whatever, which virtually means that the battery must be directly connected to the emergency lighting load. The usual arrangement of utilising a battery floating across a shunt wound generator has, however, the disadvantages that the charging current in the battery varies with the condition of the load and that constant attention is necessary to avoid the battery becoming overcharged or heavily discharged, both conditions that would shorten its life very considerably.

The G.E.C. has therefore introduced a system which complies with the regulations and at the same time overcomes these disadvantages. In it the battery is directly connected to the load without any switchgear that would interrupt the lighting circuit, and, when once adjusted, the charging or discharging condition will remain constant, independent of the load.

This is achieved by introducing a special type of generator designed by the G.E.C. to have compound characteristics arranged in such a way that the compounding is effected by the load current and not the charging current. With this arrangement, the charging current can be set at a definite value, which will remain constant even if the load should vary from zero to the maximum, thus extending the life of the battery.

The standard switchboard is of the ironclad wall-mounting type, in a neat design occupying little space and affording the maximum protection.

Two sizes are made suitable for currents up to 40 amps. and voltages up to 100 and 200 respectively, the corresponding maximum number of cells being 50 and 100.

The operation of the board does not call for any expert attention.

**Specification.**—For Circuits up to 100 volts the switchboard consists of a sindanyo slab, enamelled on face and all edges, having mounted thereon :—

Two single pole independent SALFORD automatic battery cut-in and cut-outs. One double pole ironclad main switch and fuses, for generator. One double pole ironclad main switch and fuses, for load. One 3½ in. rectangular voltmeter, reading to 160 volts. One rectangular M.C. ammeter, side zero pattern, reading to 50 amps., for generator. One 3½ in. rectangular M.C. ammeter, central zero pattern, reading 50–0–50 amps., for battery. One double pole voltmeter switch for reading battery and generator volts. One automatic two-way series diverter switch. One lampholder, for a red indicating lamp to show when the motor generator is out of action. One lampholder for a green indicating lamp, to show normal running condition. One terminal box.

For Circuits up to 200 volts, the specification is similar to the above with the addition of an extra double pole contactor connected in the charging circuit.

Capacity		Catalogue No.	Max. No. of Cells	Price		
Amps.	Volts			£	s.	d.
40	100	X <b>987</b>	50	<b>48</b>	<b>0</b>	<b>0</b>
40	200	X <b>988</b>	100	<b>56</b>	<b>0</b>	<b>0</b>

*For dimensions, drawing and diagram of connections see page 418.*

# FEEDER PILLARS

## UNIT TYPE

G.E.C. feeder pillars are made to accommodate "Handguard" fuses of all standard ratings up to 600 amperes. They are designed for outdoor use and consist essentially of (1) a cast iron containing case with steel inspection doors back and front (2) groups of distributing units arranged with busbars, and (3) suitable cast iron cable boxes on which the distributing units and busbars are mounted.

**TABLE OF FEEDER PILLARS REQUIRED.**

Capacity of Circuit. Amps.	Four Circuits		Six Circuits		Eight Circuits	
	Cat. No.	Size	Cat. No.	Size	Cat. No.	Size
60	X <b>1371</b>	1	X <b>1372</b>	2	X <b>1373</b>	3
100	X <b>1371</b>	1	X <b>1372</b>	2	X <b>1373</b>	3
150	X <b>1371</b>	1	X <b>1372</b>	2	X <b>1373</b>	3
200	X <b>1371</b>	1	X <b>1372</b>	2	X <b>1373</b>	3
300	X <b>1371</b>	1	X <b>1372</b>	2	X <b>1373</b>	3
400	X <b>1374</b>	4	X <b>1375</b>	5	X <b>1376</b>	6
600	X <b>1377</b>	7	X <b>1378</b>	8	X <b>1379</b>	9

## PILLARS ONLY.

Cat. No.	Size	Price each
		£ s. d.
X <b>1371</b>	1	<b>23 16 0</b>
X <b>1372</b>	2	<b>25 0 0</b>
X <b>1373</b>	3	<b>30 0 0</b>
X <b>1374</b>	4	<b>23 16 0</b>
X <b>1375</b>	5	<b>25 0 0</b>
X <b>1376</b>	6	<b>30 0 0</b>
X <b>1377</b>	7	<b>29 0 0</b>
X <b>1378</b>	8	<b>32 10 0</b>
X <b>1379</b>	9	<b>34 0 0</b>

If units of different capacity are required in the same pillar, it is necessary to use the pillar corresponding to the capacity for the largest unit.

The price of a complete feeder pillar is obtained by adding the price given for pillar only to that of the distribution units required; the resultant price includes busbars, inter-connections, and barriers.

## DISTRIBUTION UNITS.

Capacity Amps.	Two fuses and link		Three fuses		Three fuses and link	
	Cat. No.	Price each	Cat. No.	Price each	Cat. No.	Price each
		£ s. d.		£ s. d.		£ s. d.
60	X <b>1440</b>	<b>5 8 0</b>	X <b>1472</b>	<b>5 15 0</b>	X <b>1450</b>	<b>5 19 0</b>
100	X <b>1441</b>	<b>5 16 0</b>	X <b>1473</b>	<b>5 19 0</b>	X <b>1451</b>	<b>6 8 0</b>
150	X <b>1442</b>	<b>6 0 0</b>	X <b>1474</b>	<b>6 1 0</b>	X <b>1452</b>	<b>7 2 0</b>
200	X <b>1443</b>	<b>6 14 0</b>	X <b>1475</b>	<b>6 16 0</b>	X <b>1453</b>	<b>8 0 0</b>
300	X <b>1444</b>	<b>7 14 0</b>	X <b>1476</b>	<b>7 16 0</b>	X <b>1454</b>	<b>9 10 0</b>
400	X <b>1445</b>	<b>10 6 0</b>	X <b>1477</b>	<b>11 2 0</b>	X <b>1455</b>	<b>13 0 0</b>
600	X <b>1446</b>	<b>17 10 0</b>	X <b>1478</b>	<b>19 0 0</b>	X <b>1456</b>	<b>22 0 0</b>

For spare "Handguard" Fuses see page 396.

For dimensions and weights of complete pillars see page 419.

## ISOLATING LINKS

### INDOOR AND OUTDOOR PATTERN.

Porcelain insulators and iron base.

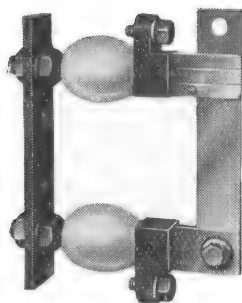


X 9150

660 Volts					
Capacity	Catalogue No.	Weight (approx.)		Price each*	
Amp. 100	X <b>9150</b>	lb. 3½	kilos 1.47	s. <b>12</b>	d. <b>8</b>

### INDOOR PATTERNS.

Slate base.



X 6770

660 Volts						
Capacity	Catalogue No.	Weight (approx.)		Price each		
Amps.		lb.	kilos	£	s.	d.
100	X <b>6750</b>	8	3.62	<b>1</b>	<b>6</b>	<b>4</b>
200	X <b>6752</b>	10½	4.87	<b>1</b>	<b>11</b>	<b>0</b>
300	X <b>6754</b>	12½	5.78	<b>2</b>	<b>7</b>	<b>4</b>
400	X <b>6756</b>	20½	9.29	<b>3</b>	<b>5</b>	<b>8</b>
500	X <b>6758</b>	22½	10.02	<b>3</b>	<b>12</b>	<b>8</b>
600	X <b>6760</b>	23½	10.65	<b>4</b>	<b>5</b>	<b>4</b>
800	X <b>6762</b>	27½	12.46	<b>6</b>	<b>16</b>	<b>4</b>
1000	X <b>6764</b>	37	15.85	<b>10</b>	<b>0</b>	<b>0</b>

Porcelain insulators and iron base.

3,300 Volts						
Capacity	Cat. No.	Weight (approx.).		Price each*		
Amp.		lb.	kilos	£	s.	d.
100	X <b>6770</b>	10	4.53	<b>2</b>	<b>7</b>	<b>4</b>
200	X <b>6772</b>	11½	5.20	<b>2</b>	<b>10</b>	<b>8</b>
300	X <b>6774</b>	11½	5.20	<b>2</b>	<b>14</b>	<b>8</b>
500	X <b>6776</b>	20	9.07	<b>8</b>	<b>0</b>	<b>0</b>
800	X <b>6778</b>	36	15.33	<b>9</b>	<b>8</b>	<b>8</b>

\* Without sweating sockets.

6,600 Volts						
Capacity	Cat. No.	Weight (approx.)		Price each*		
Amps.		lb.	kilos	£	s.	d.
100	X <b>6782</b>	11	4.98	<b>2</b>	<b>9</b>	<b>0</b>
200	X <b>6783</b>	12	5.44	<b>2</b>	<b>12</b>	<b>8</b>
300	X <b>6784</b>	15	6.8	<b>3</b>	<b>0</b>	<b>0</b>
400	X <b>6785</b>	18	8.16	<b>6</b>	<b>3</b>	<b>8</b>
500	X <b>6786</b>	26	11.8	<b>8</b>	<b>0</b>	<b>0</b>
800	X <b>6788</b>	36	15.33	<b>9</b>	<b>9</b>	<b>0</b>

For sweating sockets see page 398.

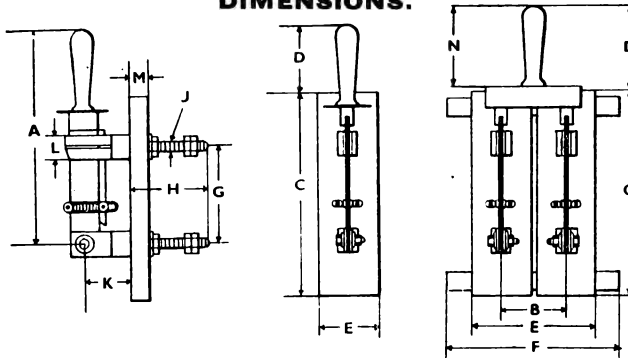
For dimensions see page 420.

Details of standard types of isolating links ranging from 11,000 volts to 44,000 volts will be supplied on application.

# **"WITTON" SWITCHES**

**For Circuits up to 660 Volts.**

## **DIMENSIONS.**



Carrying capacity	A		B		C		D		E			F	
	S.P.	D.P. and T.P.	D.P. and T.P.	Single throw	Double throw	S.P.	D.P. and T.P.	S.P.	D.P.	T.P.	D.P.	T.P.	
	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	
Amps.	15	5 <sup>3</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>8</sub>	4 <sup>5</sup> / <sub>8</sub>	6 <sup>1</sup> / <sub>2</sub>	1 <sup>3</sup> / <sub>4</sub>	2 <sup>3</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>2</sub>	—	—
	30	6 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>2</sub>	6	9 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>2</sub>	2 <sup>3</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>2</sub>	8 <sup>1</sup> / <sub>2</sub>	—	—
	60	7 <sup>3</sup> / <sub>8</sub>	8 <sup>3</sup> / <sub>8</sub>	4	7 <sup>3</sup> / <sub>8</sub>	11 <sup>3</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	6 <sup>1</sup> / <sub>2</sub>	10 <sup>1</sup> / <sub>2</sub>	—	—
	100	9 <sup>1</sup> / <sub>8</sub>	9 <sup>1</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>2</sub>	9 <sup>1</sup> / <sub>4</sub>	13 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>2</sub>	2 <sup>3</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	7 <sup>1</sup> / <sub>2</sub>	11 <sup>3</sup> / <sub>4</sub>	—	—
	200	10 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>2</sub>	5	10 <sup>1</sup> / <sub>2</sub>	15 <sup>1</sup> / <sub>2</sub>	2 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	8 <sup>1</sup> / <sub>2</sub>	13 <sup>1</sup> / <sub>2</sub>	—	—
	300	12 <sup>7</sup> / <sub>16</sub>	13 <sup>7</sup> / <sub>16</sub>	5	12 <sup>1</sup> / <sub>2</sub>	18 <sup>1</sup> / <sub>2</sub>	3 <sup>7</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>8</sub>	4	9	14	12	18
	400	13 <sup>3</sup> / <sub>8</sub>	14 <sup>3</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>2</sub>	13 <sup>1</sup> / <sub>2</sub>	20 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>8</sub>	4 <sup>7</sup> / <sub>16</sub>	4 <sup>3</sup> / <sub>8</sub>	10 <sup>1</sup> / <sub>2</sub>	15 <sup>3</sup> / <sub>4</sub>	15	21
	500	14 <sup>3</sup> / <sub>8</sub>	15 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>2</sub>	15	22	3 <sup>7</sup> / <sub>16</sub>	4 <sup>3</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>2</sub>	10 <sup>1</sup> / <sub>2</sub>	16 <sup>1</sup> / <sub>2</sub>	15	21
	600	15 <sup>1</sup> / <sub>2</sub>	16 <sup>1</sup> / <sub>2</sub>	6	15 <sup>1</sup> / <sub>2</sub>	22 <sup>1</sup> / <sub>2</sub>	4 <sup>7</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>2</sub>	17 <sup>1</sup> / <sub>2</sub>	15	21
	800	17 <sup>1</sup> / <sub>8</sub>	18 <sup>1</sup> / <sub>8</sub>	6 <sup>3</sup> / <sub>4</sub>	18	26 <sup>1</sup> / <sub>2</sub>	4 <sup>7</sup> / <sub>16</sub>	5 <sup>9</sup> / <sub>16</sub>	6 <sup>1</sup> / <sub>4</sub>	13	19 <sup>3</sup> / <sub>4</sub>	18	24
	1000	18 <sup>1</sup> / <sub>8</sub>	19 <sup>1</sup> / <sub>8</sub>	7 <sup>1</sup> / <sub>2</sub>	20	29 <sup>1</sup> / <sub>2</sub>	3 <sup>5</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>2</sub>	7	14 <sup>1</sup> / <sub>2</sub>	22	18	27
	1200	17 <sup>1</sup> / <sub>2</sub>	18 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>2</sub>	18	26 <sup>1</sup> / <sub>2</sub>	4	5 <sup>1</sup> / <sub>2</sub>	7	14 <sup>1</sup> / <sub>2</sub>	22	18	27
	1600	17 <sup>1</sup> / <sub>2</sub>	19 <sup>1</sup> / <sub>2</sub>	8	18 <sup>1</sup> / <sub>2</sub>	27	4 <sup>3</sup> / <sub>8</sub>	5 <sup>5</sup> / <sub>8</sub>	7 <sup>1</sup> / <sub>2</sub>	15 <sup>1</sup> / <sub>2</sub>	23 <sup>1</sup> / <sub>2</sub>	21	30
	2000	18 <sup>1</sup> / <sub>8</sub>	19 <sup>3</sup> / <sub>8</sub>	8 <sup>1</sup> / <sub>2</sub>	20	28 <sup>1</sup> / <sub>2</sub>	4 <sup>1</sup> / <sub>8</sub>	5 <sup>5</sup> / <sub>8</sub>	8	16 <sup>1</sup> / <sub>2</sub>	25	24	33
	3000	18 <sup>1</sup> / <sub>8</sub>	19 <sup>3</sup> / <sub>8</sub>	9	20	28 <sup>1</sup> / <sub>2</sub>	4 <sup>1</sup> / <sub>8</sub>	5 <sup>5</sup> / <sub>8</sub>	8 <sup>1</sup> / <sub>2</sub>	17 <sup>1</sup> / <sub>2</sub>	26 <sup>1</sup> / <sub>2</sub>	24	33

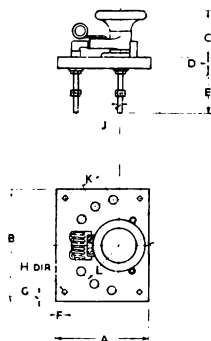
Carrying capacity			J		K	L	M	N	O
	G	H	Diam. of stem	No. of threads per In.				D.P. and T.P.	No. of blades per pole
Amps.	Ins.	Ins.	Ins.	Whit.	Ins.	Ins.	Ins.	Ins.	
15	2 $\frac{1}{8}$	3	$\frac{3}{16}$	Whit.	1 $\frac{3}{32}$	$\frac{1}{2}$	$\frac{1}{2}$	2	1
30	3 $\frac{1}{4}$	3	0B.A.	—	1 $\frac{3}{32}$	$\frac{1}{2}$	$\frac{1}{2}$	2 $\frac{1}{2}$	1
60	4	3 $\frac{1}{2}$	$\frac{1}{8}$	Whit.	1	$\frac{5}{8}$	$\frac{3}{4}$	2 $\frac{1}{2}$	1
100	4 $\frac{1}{2}$	3 $\frac{1}{2}$	$\frac{3}{8}$	„	1 $\frac{3}{32}$	1	$\frac{3}{4}$	3	1
200	5 $\frac{1}{4}$	4	$\frac{1}{2}$	„	1 $\frac{11}{16}$	1 $\frac{5}{16}$	1	3 $\frac{1}{2}$	1
300	6	4 $\frac{1}{8}$	$\frac{3}{8}$	„	2 $\frac{11}{16}$	1 $\frac{7}{8}$	1	4	1
400	6 $\frac{1}{2}$	4 $\frac{1}{8}$	$\frac{3}{4}$	11	3 $\frac{1}{16}$	1 $\frac{7}{8}$	1	4	1
500	7	4 $\frac{1}{8}$	$\frac{7}{8}$	11	3 $\frac{1}{8}$	2	1	4 $\frac{1}{2}$	1
600	7 $\frac{1}{2}$	4 $\frac{1}{8}$	1	11	3 $\frac{1}{16}$	2 $\frac{1}{4}$	1	5	1
800	8 $\frac{1}{4}$	4 $\frac{3}{4}$	$\frac{1}{2}$	11	3 $\frac{11}{16}$	2 $\frac{5}{8}$	1 $\frac{1}{2}$	5 $\frac{1}{2}$	1
1000	8 $\frac{7}{8}$	5	1 $\frac{1}{8}$	11	4 $\frac{1}{8}$	2 $\frac{7}{8}$	1 $\frac{1}{2}$	5 $\frac{3}{4}$	1
1200	8 $\frac{1}{2}$	6 $\frac{1}{4}$	1 $\frac{1}{2}$	11	3 $\frac{11}{16}$	2 $\frac{1}{2}$	1 $\frac{1}{2}$	5 $\frac{3}{4}$	2
1600	8 $\frac{3}{4}$	6 $\frac{3}{4}$	1 $\frac{3}{4}$	11	4 $\frac{1}{16}$	2 $\frac{3}{8}$	1 $\frac{1}{2}$	5 $\frac{3}{4}$	2
2000	8 $\frac{1}{2}$	7 $\frac{1}{4}$	2 $\frac{1}{4}$	11	4 $\frac{11}{16}$	2 $\frac{7}{8}$	1 $\frac{1}{2}$	5 $\frac{3}{4}$	2
3000	8 $\frac{1}{2}$	8 $\frac{1}{2}$	2 $\frac{1}{2}$	11	4 $\frac{11}{16}$	2 $\frac{7}{8}$	1 $\frac{1}{2}$	5 $\frac{3}{4}$	3

NOTE.—Up to and including 200 amps., switches are mounted on a single slate; above 200 amps., each pole is mounted on a separate slate base, fixed to hardwood battens; battens are not supplied with single pole switches.

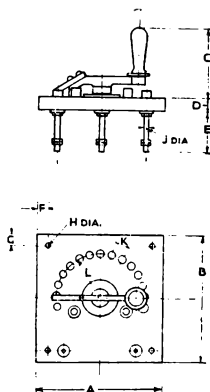
# S.E.C.

## BATTERY AND MAIN RESISTANCE REGULATORS

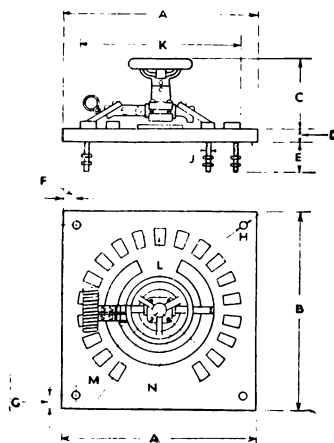
### DIMENSIONS.



**X 5740**  
30 amp. Battery Regulator.



**X 5741**  
30 amp. Resistance Regulator.



50, 100, and  
200 amp. Regulators.  
**X 5732/4 X 5742/4**

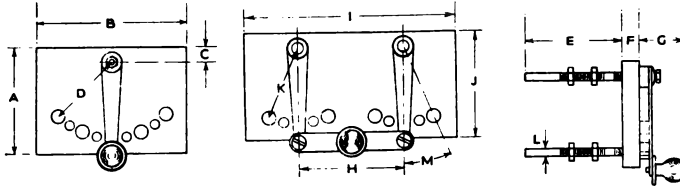
Capacity	A	B	C	D	E	F	G	H	J
Amps.	Ins.	Ins.	Ins.	Ins.	Ins.	In.	In.	In.	In.
30 { Battery	5	6	2½	5/8	2 3/8	½	½	¼	0B.A.
30 { Resistance	7	7	3 3/4	¾	2 1/4	¾	5/8	1/16	0B.A.
50	10	10	3 11/16	¾	2 3/8	¾	¾	7/16	1/16 Whit.
100	12	12	4 5/16	¾	2 3/4	¾	¾	7/16	3/16 Whit.
200	15	15	4 7/8	¾	3 1/4	¾	¾	7/16	1/2 Whit.

Capacity	K		L	M		N
	Battery	Resistance		Battery	Resistance	
Amps.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.
30 { Battery	1		2 7/16	—		—
30 { Resistance	—	5/8	2 7/16	—	—	—
50	8	8	3 13/16	1 1/16	¾	2 1/2
100	9 3/4	9 3/4	1 9/16	1 3/16	1	2 11/16
200	12 1/2	12 1/2	5 13/16	1 1/2	1 1/4	3 1/2

# **AMMETER AND VOLTMETER SWITCHES**

**RADIAL TYPE for Circuits up to 250 Volts.**

## **DIMENSIONS.**

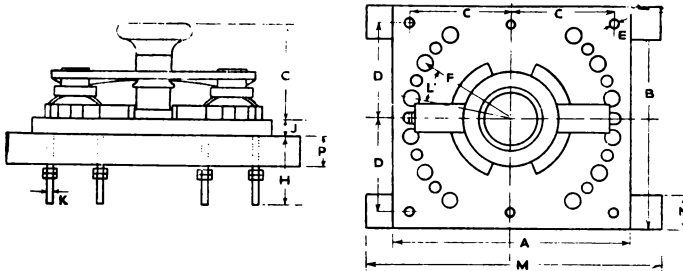


**X 5802/15**

No. of ways	A	B	C	D	E	F	G	H	I	J	K	L	M
2 and 3	Ins.	Ins.	Ins.	Ins.	Ins.	In.	Ins.	Ins.	Ins.	Ins.	Ins.	In.	
	2½	2½	⅞	1½	2½	½	1 ⅞	2½	5	2½	1 ⅞	⅜	31½°
4	3	3½	⅞	2½	2½	½	1½	4½	8	3	2½	⅜	23½°
5	3	4½	⅞	2½	2½	½	1½	4½	8½	3	2½	⅜	23½°

**CIRCULAR TYPE for Circuits up to 600 Volts.**

## **DIMENSIONS.**



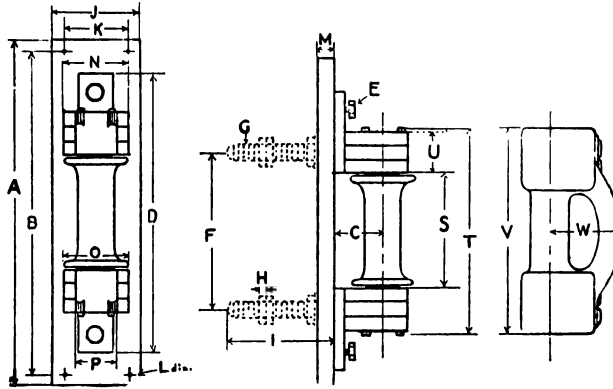
**X 5822/8**

No. of ways	A	B	C	D	E	F	G	H		J	K	L	M	N	P
	Ins.	Ins.	Ins.	Ins.	In.	Ins.	Ins.	Ins.	Short	In.	In.		Ins.	In.	Ins.
2 & 3	8	5½	3	2½	⅜	3	2½	2½	1½	½	⅜	22°	9	¾	1½
4, 5 & 6	8	7½	3	3½	⅜	3	2½	2½	1½	½	⅜	22°	9	¾	1½
7 & 8	10	10½	4½	4½	⅜	4	2½	2½	1½	½	⅜	16°	12	1	2

*For detailed description of above switches see page 393.*

# S.E.C.

## BOBBIN AND HANDGUARD CUT-OUTS DIMENSIONS.



X 5840/68 and X 6640/68

Capacity	BACK CONNECTED ONLY								FRONT CONNECTED ONLY.				
	A	B	C	F	G				A	B	C	D	E
					Size	N9. of Threads per in.		H					
Amps.	Ins.	Ins.	Ins.	Ins.	B. A.	Whit.		In.	Ins.	Ins.	Ins.	Ins.	In.
30	5 $\frac{1}{2}$	4 $\frac{7}{8}$	1 $\frac{1}{8}$	3	0 B. A.	—		1 $\frac{1}{8}$	3	7	6 $\frac{1}{8}$	1 $\frac{1}{8}$	4 $\frac{1}{2}$ Whit.
40	6 $\frac{1}{2}$	5 $\frac{1}{8}$	1 $\frac{1}{8}$	3 $\frac{1}{2}$	0 B. A.	—		1 $\frac{1}{8}$	3	7 $\frac{1}{2}$	6 $\frac{1}{8}$	1 $\frac{1}{8}$	5 $\frac{1}{8}$ "
60	8	7	1 $\frac{1}{8}$	4 $\frac{1}{4}$	1 $\frac{1}{8}$	—		1 $\frac{1}{8}$	3 $\frac{1}{2}$	9 $\frac{1}{2}$	8 $\frac{1}{2}$	1 $\frac{1}{8}$	6 $\frac{1}{8}$ "
75	8 $\frac{1}{2}$	7 $\frac{1}{2}$	1 $\frac{1}{8}$	4 $\frac{1}{8}$	1 $\frac{1}{8}$	Whit.		1 $\frac{1}{8}$	3 $\frac{1}{2}$	10	9	1 $\frac{1}{8}$	7 $\frac{1}{2}$ "
100	8 $\frac{1}{2}$	7 $\frac{1}{2}$	1 $\frac{1}{8}$	5	1 $\frac{1}{8}$	—		1 $\frac{1}{8}$	3 $\frac{1}{2}$	10 $\frac{1}{2}$	9 $\frac{1}{2}$	1 $\frac{1}{8}$	8 $\frac{1}{2}$ "
150	9	8	1 $\frac{1}{8}$	5 $\frac{1}{4}$	1 $\frac{1}{8}$	—		1 $\frac{1}{8}$	3 $\frac{1}{2}$	12 $\frac{1}{2}$	11 $\frac{1}{2}$	1 $\frac{1}{8}$	9 $\frac{1}{2}$ "
200	10	9	1 $\frac{1}{8}$	5 $\frac{1}{2}$	1 $\frac{1}{8}$	—		1 $\frac{1}{8}$	4	13 $\frac{1}{2}$	12 $\frac{1}{2}$	1 $\frac{1}{8}$	10 $\frac{3}{4}$ "
300	10	9	1 $\frac{1}{8}$	6	1 $\frac{1}{8}$	—		1 $\frac{1}{8}$	4 $\frac{1}{4}$	14 $\frac{1}{2}$	13 $\frac{1}{2}$	2 $\frac{1}{8}$	11 $\frac{1}{2}$ "
400	11	10	1 $\frac{1}{4}$	6 $\frac{1}{2}$	1 $\frac{1}{8}$	11		1 $\frac{1}{8}$	4 $\frac{1}{4}$	15 $\frac{1}{2}$	14 $\frac{1}{2}$	2 $\frac{1}{4}$	12 $\frac{1}{2}$ "
600	14	12 $\frac{3}{4}$	2	7 $\frac{1}{2}$	1 $\frac{1}{8}$	11		1 $\frac{1}{8}$	4 $\frac{1}{4}$	22	20 $\frac{1}{2}$	2 $\frac{1}{2}$	15 $\frac{1}{2}$ "

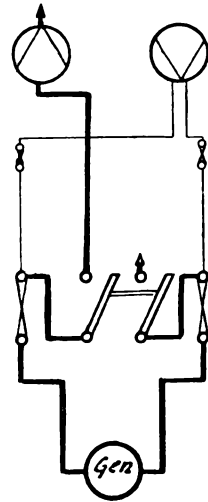
Capacity	BACK OR FRONT CONNECTED										"HANDGUARD" FUSE CARRIER ONLY	
	J	K	L	M	N	O	P	S	T	U	V	W
Amps.	Ins.	Ins.	In.	In.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.
30	2 $\frac{1}{2}$	1 $\frac{5}{8}$	3 $\frac{1}{2}$	1 $\frac{1}{8}$	1 $\frac{1}{8}$	1 $\frac{1}{8}$	2 $\frac{1}{8}$	3 $\frac{1}{2}$	4 $\frac{1}{8}$	5 $\frac{1}{8}$	3 $\frac{1}{8}$	1 $\frac{5}{8}$
40	2 $\frac{1}{2}$	1 $\frac{5}{8}$	3 $\frac{1}{2}$	1 $\frac{1}{8}$	1 $\frac{1}{8}$	1 $\frac{1}{8}$	2 $\frac{1}{8}$	3 $\frac{1}{2}$	4 $\frac{1}{8}$	5 $\frac{1}{8}$	3 $\frac{1}{8}$	1 $\frac{5}{8}$
60	2 $\frac{1}{2}$	1 $\frac{5}{8}$	3 $\frac{1}{2}$	1 $\frac{1}{8}$	1 $\frac{1}{8}$	1 $\frac{1}{8}$	2 $\frac{1}{8}$	3 $\frac{1}{2}$	4 $\frac{1}{8}$	5 $\frac{1}{8}$	3 $\frac{1}{8}$	1 $\frac{5}{8}$
75	3	2	3 $\frac{1}{2}$	1 $\frac{1}{8}$	1 $\frac{1}{8}$	1 $\frac{1}{8}$	2 $\frac{1}{8}$	3 $\frac{1}{2}$	4 $\frac{1}{8}$	5 $\frac{1}{8}$	3 $\frac{1}{8}$	1 $\frac{5}{8}$
100	3	2	3 $\frac{1}{2}$	1 $\frac{1}{8}$	1 $\frac{1}{8}$	1 $\frac{1}{8}$	2 $\frac{1}{8}$	3 $\frac{1}{2}$	4 $\frac{1}{8}$	5 $\frac{1}{8}$	3 $\frac{1}{8}$	1 $\frac{5}{8}$
150	3	2	3 $\frac{1}{2}$	1 $\frac{1}{8}$	1 $\frac{1}{8}$	1 $\frac{1}{8}$	2 $\frac{1}{8}$	3 $\frac{1}{2}$	4 $\frac{1}{8}$	5 $\frac{1}{8}$	3 $\frac{1}{8}$	1 $\frac{5}{8}$
200	3	2	3 $\frac{1}{2}$	1 $\frac{1}{8}$	1 $\frac{1}{8}$	1 $\frac{1}{8}$	2 $\frac{1}{8}$	3 $\frac{1}{2}$	4 $\frac{1}{8}$	5 $\frac{1}{8}$	3 $\frac{1}{8}$	1 $\frac{5}{8}$
300	4	3	3 $\frac{1}{2}$	1	2 $\frac{1}{4}$	2 $\frac{1}{4}$	1 $\frac{1}{8}$	4 $\frac{1}{8}$	8 $\frac{1}{8}$	1 $\frac{1}{8}$	8 $\frac{1}{8}$	3 $\frac{1}{8}$
400	4	3	3 $\frac{1}{2}$	1	3 $\frac{1}{8}$	3 $\frac{1}{8}$	1 $\frac{1}{8}$	4 $\frac{1}{8}$	9 $\frac{1}{8}$	1 $\frac{1}{8}$	9 $\frac{1}{8}$	3 $\frac{1}{8}$
600	5 $\frac{1}{2}$	4 $\frac{1}{4}$	3 $\frac{1}{2}$	1	4 $\frac{1}{8}$	3 $\frac{1}{8}$	2 $\frac{1}{8}$	5 $\frac{1}{4}$	10 $\frac{1}{8}$	2 $\frac{1}{4}$	10 $\frac{1}{8}$	4 $\frac{1}{8}$

NOTE.—The above dimensions are approximate and must not be worked to without confirmation.

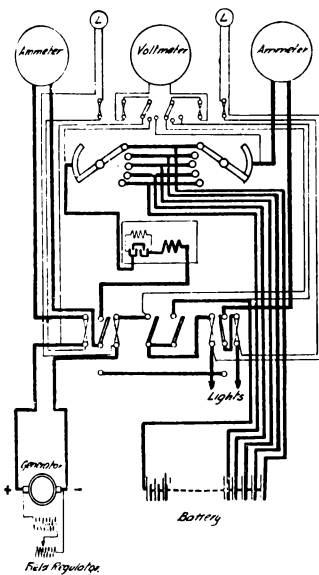


## SMALL D.C. SWITCHBOARDS DIMENSIONS & DIAGRAMS OF CONNECTIONS.

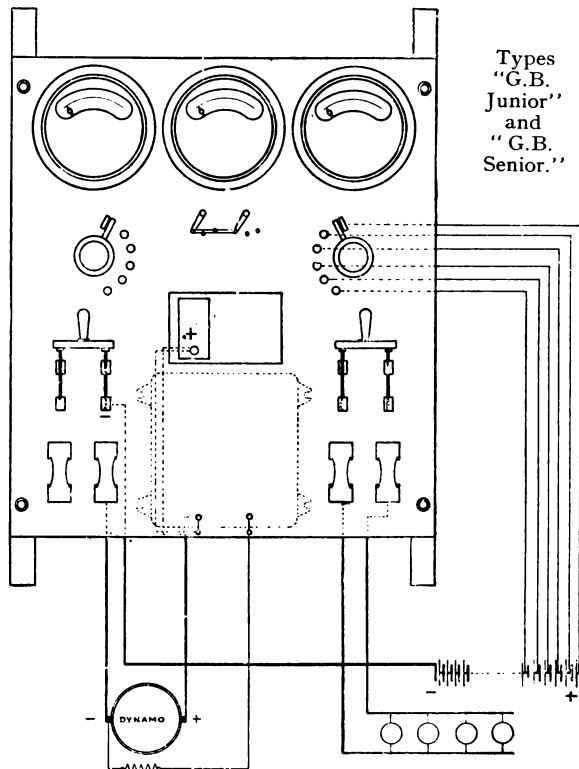
Description	Capacity	Width	Height	Weight (approx.)	
	Amps.	Ins.	Ins.	Lb.	Kilos
<b>Type "G"</b> (without space for shunt regulator)	30	13	15	67	30
	60	14½	16	69	31
	100	16	18	72	33
	200	20	24	77	35
<b>Type "G"</b> (with space for shunt regulator)	30	14½	26	87	40
	60	14½	27	89	41
	100	16	29	92	42
	200	20	42	97	44
<b>Type "G.B. Junior"</b>	20	21	24	112	51
<b>Type "G.B. Senior"</b>	30	27	27	128	58
	50	30	30	156	71
	100	30	36	212	96
	150	36	45	280	133
	200	36	45	280	133
<b>Type "A.T.A."</b>	30	30	34	168	77
	50	30	34	168	77
	100	30	40	196	89
	150	36	48	224	102
	200	36	48	224	102



Type "G."



Type "A.T.A."



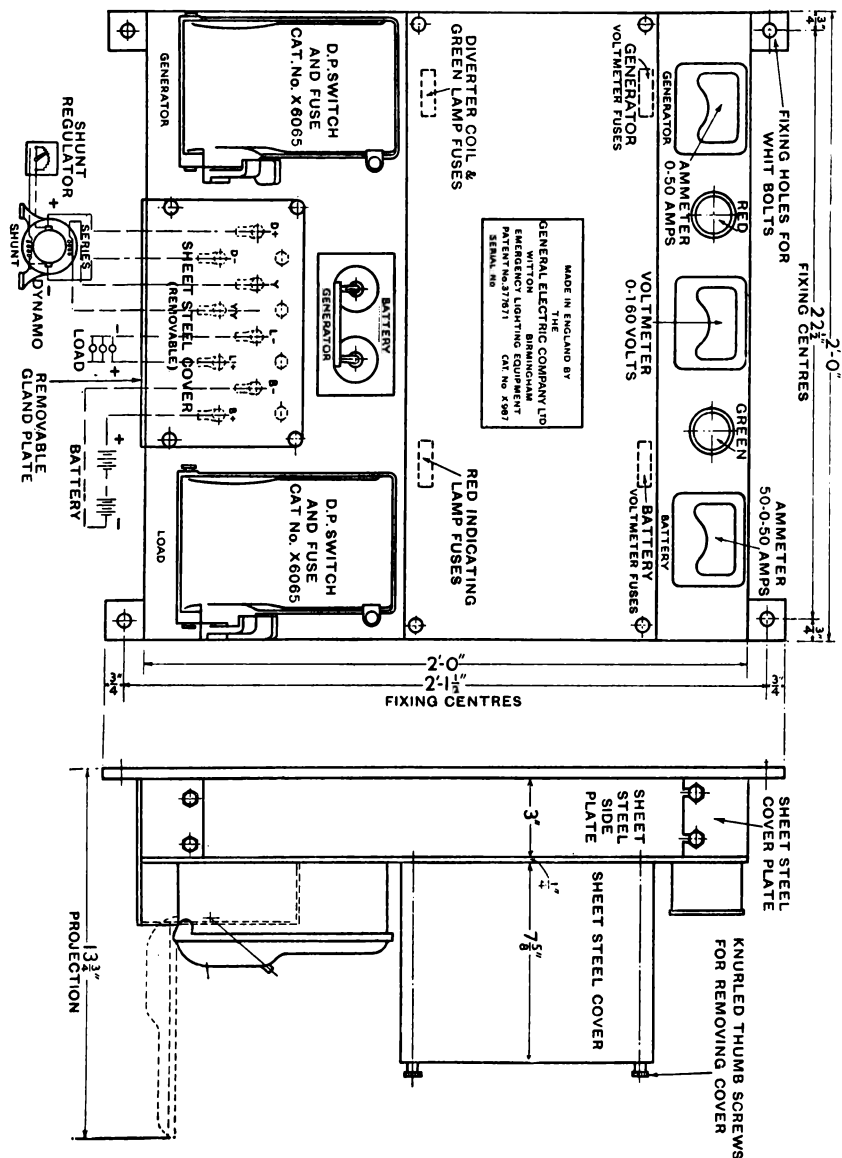
Types  
"G.B.  
Junior"  
and  
"G.B.  
Senior."

NOTE.—The above dimensions are approximate and must not be worked to without confirmation.

# **G.E.C.**

## **EMERGENCY LIGHTING CONTROL BOARDS**

### **DIMENSIONS.**



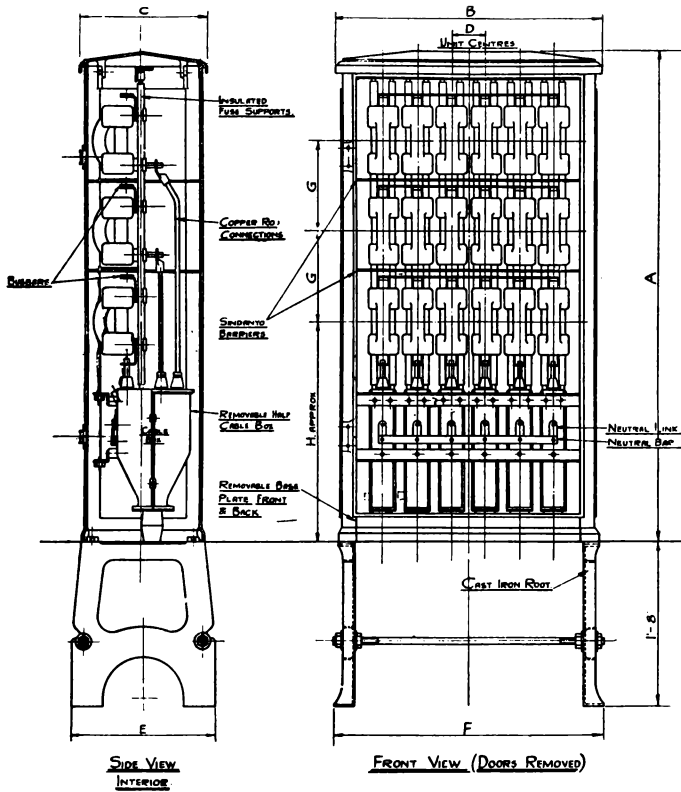
**X 987/8**

NOTE.—The dimensions shown in the diagram are approximate and must not be worked to without confirmation.

# FEEDER PILLARS

## COMPLETE UNITS.

### DIMENSIONS.

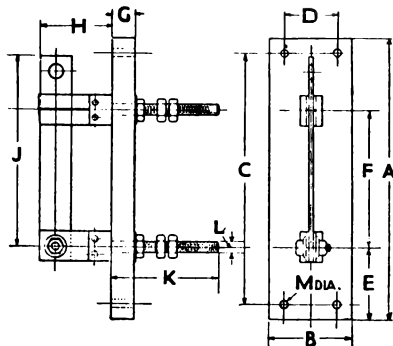


Cat. No.	Size	No. of Circuits	Capacity	A	B	C	Doors	Weight (approx.)	
								Lb.	Kilos
X 1371	1	4	Amps. 60/300	60	23 $\frac{3}{8}$	15 $\frac{1}{2}$	Single	476	216
X 1374	4	4	400	66	25 $\frac{1}{2}$	18		560	254
X 1377	7	4	600	72	31 $\frac{1}{2}$	18		700	317
X 1372	2	6	60/300	60	32 $\frac{1}{2}$	15 $\frac{1}{2}$		532	241
X 1375	5	6	400	66	35 $\frac{1}{2}$	18	Double	644	292
X 1378	8	6	600	72	43 $\frac{1}{2}$	18		784	355
X 1373	3	8	60/300	60	40 $\frac{1}{2}$	15 $\frac{1}{2}$		588	267
X 1376	6	8	400	66	44 $\frac{1}{2}$	18		728	330
X 1379	9	8	600	72	55 $\frac{1}{2}$	18		868	393

## ISOLATING LINKS

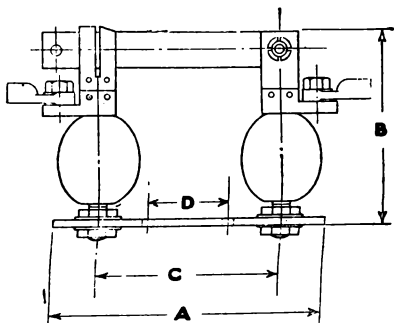
### INDOOR PATTERNS.

#### DIMENSIONS.



X 6750/64 660 Volt.

Capacity	A	B	C	D	E	F	G	H	J	K	L		M
											Dia.	Threads per inch	
Amps.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Whit.	In.
100	9 1/4	2 3/4	7 1/2	1 1/2	2 3/8	4 1/2	3 1/4	2 3/8	6 1/2	3 1/2	3 1/8		3 1/8
200	10 1/2	3 1/8	8 1/2	1 7/8	2 3/8	5 1/2	1	3 1/8	7 1/2	4	1 1/8		3 1/8
300	12 1/2	4	10 1/2	2 3/8	3 1/8	5 1/2	1	3 1/8	8 1/8	4 1/8	1 1/8		3 1/2
400	13 1/2	4 1/4	11 1/2	3 1/4	3 3/8	6 1/2	1	4	9 3/16	4 1/8	1 1/8		3 1/2
500	15	5 1/4	13	3 3/4	4	7	1	4 3/8	10	4 3/8	1 1/8		3 1/2
600	15 1/2	5 1/2	13 1/2	3 3/4	4 1/8	7 1/2	1	4 1/2	10 1/2	4 3/8	1 1/8	11	3 1/2
800	18	6 1/4	15 1/2	4 1/4	4 3/8	8 1/2	1 1/4	5 1/8	12 1/8	4 3/4	1 1/8		3 1/2
1000	20	7	18 1/8	5	5 1/2	8 1/2	1 1/2	5 1/2	13 1/8	5	1 1/8		3 1/2



X 6770/88

3,300—6,600 Volt.

Capacity		A	B	C	D
Volts	Amps.	Ins.	Ins.	Ins.	Ins.
3,300	100	10 1/2	6 1/2	6 1/2	2 3/4
3,300	200/300	10 1/2	7 1/4	6 1/2	2 3/4
6,600	100/300	12	8 3/4	8	3 1/2
11,000	100/300	14	9 7/8	10	4
22,000	100/300	22	13 1/2	11	20

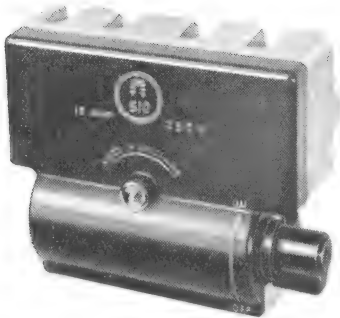
For detailed description of above Links see page 412.

NOTE.—The above dimensions are approximate and must not be worked to without confirmation.

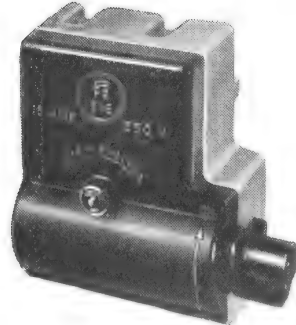
# **ALL INSULATED MAIN SWITCH-FUSES AND SWITCH-FUSE SPLITTERS**

**250 Volt.**

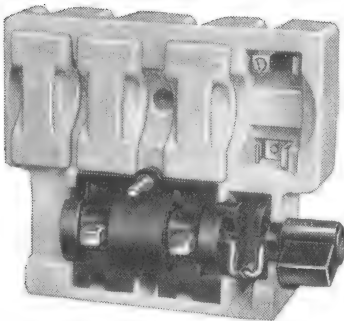
Rapid make, rapid break, drum type, double pole, double break switch mounted in solid vitreous porcelain base, with "Minor" pattern "Quenchark" Home Office fuses and moulded bakelite cover which cannot be removed when switch is in the "On" position.



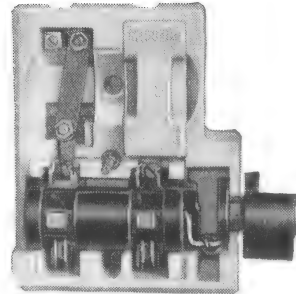
**S 10** D.P. Switch Fuse Splitter



**S 15** D.P. Switch Fuse



**S 11** With supplementary shield  
(cover removed)

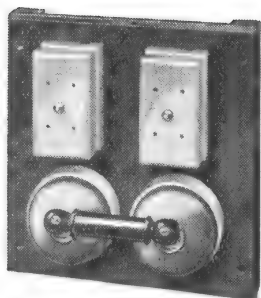


**S 17** With neutral link  
(cover removed)

Cat. No.	Amps.	Description	Price each	
			s.	d.
<b>S 10</b>	10/15	D.P. all-insulated switch, combined with two pairs of fuses .. ..	<b>5</b>	<b>8</b>
<b>S 11</b>	10/15	Ditto ditto, with supplementary shield over contacts .. ..	<b>6</b>	<b>0</b>
<b>S 12</b>	10/15	As <b>S 10</b> but with one fuse and one neutral link for each circuit ..	<b>6</b>	<b>0</b>
<b>S 15</b>	15	D.P. all-insulated switch fuse .. ..	<b>4</b>	<b>8</b>
<b>S 16</b>	15	Ditto ditto, with supplementary shield over contacts .. ..	<b>5</b>	<b>0</b>
<b>S 17</b>	15	D.P. all-insulated switch with one fuse and one neutral link .. ..	<b>5</b>	<b>0</b>

# S.E.C.

## SWITCH AND CUT-OUT SETS



**S 458**

Consisting of Double Pole (coupled) Slick Switches and two S.P. Porcelain Cut-outs, mounted on teak base board with battens.

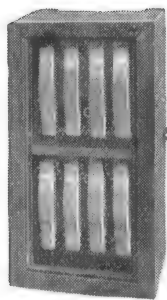
Cat. No.	Amps	Size	Price each	
		ins.	s.	d.
<b>S 457</b>	5	6 × 6	<b>6</b>	<b>8</b>
<b>S 458</b>	10	8½ × 8	<b>13</b>	<b>4</b>

## DRILLING PARTICULARS FOR IRONCLAD FUSE AND DISTRIBUTION BOARDS

(See pages 423 to 426).

Cat. No.	Page	Drilling for Mains.	Outgoing
<b>S 112/121</b>	424	1½" E.T. up to 6 ways; 1½" E.T. above 6 ways..	¾" E.T.
<b>S 162/170</b>	425	2 and 3-way, 1½" E.T.; 4, 5 and 6-way, 1½" E.T.; 8 and 10-way, 2" E.T. ....	¾" "
<b>S 282/292</b>	425	1½" E.T. up to 6 ways; 1½" E.T. above 6 ways	¾" "
<b>S 2233/2238</b>	426	1½" E.T. (all sizes) ..	¾" "
<b>S 2242/2250</b>	423	2 and 3-way, ¾" knockout; 4 and 5-way, 1" knockout; 6-way upwards, 1½" knockout ..	¾" knockout
<b>S 3323/3326</b>	426	1½" E.T. for 3 ways; 1½" E.T. above 3 ways ..	¾" E.T.

*Fuseboards can be supplied from stock undrilled if required, at same prices as shown.*



**S 204**

## FUSE BOARDS

**"CHANNEL" 10 Amp. 250 Volt.**

(Teak case).

No. of D.P. Ways	Cat. No.	Approx. Overall Dimensions	Price each	
		ins.	£	s. d.
2	<b>S 202</b>	6½ × 5½ × 4½		<b>7 0</b>
3	<b>S 203</b>	8 × 5½ × 4½		<b>9 4</b>
4	<b>S 204</b>	5½ × 10½ × 4½		<b>13 0</b>
5	<b>S 205</b>	6½ × 10½ × 4½		<b>15 8</b>
6	<b>S 206</b>	7½ × 10½ × 4½		<b>17 8</b>
8	<b>S 208</b>	9½ × 10½ × 4½	<b>1</b>	<b>2 4</b>
10	<b>S 210</b>	11½ × 10½ × 4½	<b>1</b>	<b>6 8</b>
12	<b>S 212</b>	13½ × 10½ × 4½	<b>1</b>	<b>11 8</b>

## SPARE FUSE CLIPS



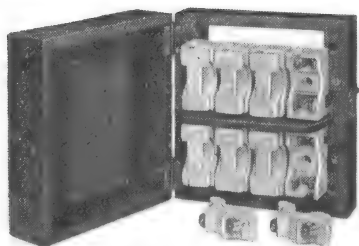
**S 300**



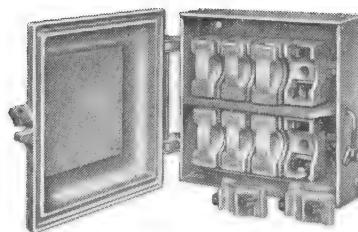
**S 301**

Cat. No.	Description	Price per doz.	
		s.	d.
<b>S 300</b>	Terminal pattern phosphor bronze fuse clips as on <b>S202-212</b> fuse boards ..	<b>2</b>	<b>8</b>
<b>S 301</b>	Busbar pattern ditto ..	<b>1</b>	<b>4</b>

## FUSE BOARDS



**S 2224**



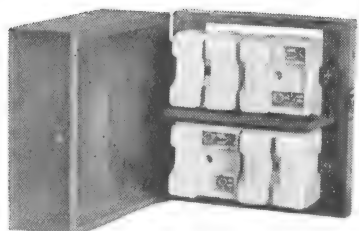
**S 2244**

**" MINOR " 15 Amp. 250 Volt.**

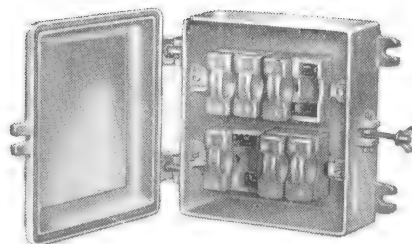
Home Office Pattern. For light duty.

No. of D.P. Ways	Cat. No.	TEAK			PRESSED STEEL (With knock-outs).			
		Approx. Overall Dimensions	Price each			Approx. Overall Dimensions	Price each Silverlac	
		ins.	£	s. d.		ins.	£	s. d.
2	S 2222	6½ × 3½ × 2½	5	0	S 2242	8 × 3½ × 3	7	0
3	S 2223	9½ × 3½ × 2½	7	0	S 2243	10 × 3½ × 3	9	4
4	S 2224	6 × 5½ × 2½	9	0	S 2244	7½ × 6 × 3	11	8
5	S 2225	7½ × 6½ × 2½	11	8	S 2245	9½ × 6½ × 3	14	8
6	S 2226	9 × 6½ × 2½	14	4	S 2246	10½ × 6½ × 3	17	8
8	S 2228	11½ × 6½ × 2½	18	4	S 2248	12½ × 6½ × 3	1	18
10	S 2230	13½ × 6½ × 2½	1	2 4	S 2250	14½ × 6½ × 3	1	5 4

*For Drilling Particulars of Pressed Steel Fuseboards, see page 422.*



**S 334**



**S 304**

**" NEATA " 10 Amp. 250 Volt.**

Home Office Pattern.

No. of D.P. Ways	Cat. No.	TEAK.			CAST IRON (Undrilled).									
		Approx. Overall Dimensions	Price each			Cat. No.	Approx. Overall Dimensions	Price each						
								Silverlac	Galvanised					
		ins.	£	s.	d.		ins.	£	s.	d.		£	s.	d.
2	S 332	6½ × 3½ × 3 10	8	0		S 302	7 11 × 6 × 3 12	11	8					
3	S 333	6½ × 4½ × 3 10	10	8		S 303	7 11 × 7½ × 3 12	14	8					
4	S 334	6½ × 5½ × 3 10	13	8		S 304	7 11 × 8½ × 3 12	16	0		1	1	0	
5	S 335	6½ × 8 × 3 10	17	0		S 305	7 11 × 10½ × 3 12	1	0	0	1	5	8	
6	S 336	6½ × 9½ × 3 10	1	0	0	S 306	7 11 × 11½ × 3 12	1	2	8	1	9	0	
8	S 338	6½ × 11½ × 3 10	1	5	0	S 308	7 11 × 13½ × 3 12	1	9	8	1	17	0	

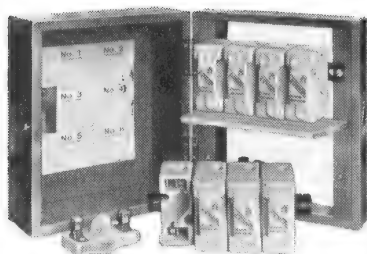
Any of above Fuseboards can be supplied with fuses on phase pole and neutral bar in place of fuse units, at short notice. Prices on application.

*For Spare Fuse Carriers see page 427.*

*For 500-volt Fuseboards see pages 347 to 349.*

*For Drilling Particulars for Ironclad Fuseboards see page 422.*

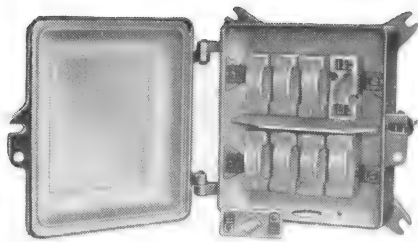
## FUSE BOARDS



**S 104**

**"JUNIOR"**

**S 114**



**15 Amp. 250 Volt.**

Home Office Pattern. For full capacity, such as heating and power circuits.

No. of D.P. Ways	TEAK.			CAST IRON.					
	Cat. No.	Approx. Overall dimensions	Price each	Cat. No.	Fixing bolt centres	Price each			
						Silverlac	Galvanised		
		ins.	£ s. d.		ins.	£ s. d.	£ s. d.		
2	S <b>102</b>	8 × 4 × 4	<b>10 8</b>	S <b>112</b>	5½ × 8½	<b>17 4</b>	<b>1 3 0</b>		
3	S <b>103</b>	8 × 5½ × 4	<b>14 8</b>	S <b>113</b>	7 × 8½	<b>19 4</b>	<b>1 5 8</b>		
4	S <b>104</b>	8 × 6½ × 4	<b>18 0</b>	S <b>114</b>	8½ × 8½	<b>1 4 4</b>	<b>1 11 0</b>		
5	S <b>105</b>	8 × 7½ × 4	<b>1 1 4</b>	S <b>115</b>	9½ × 9	<b>1 10 8</b>	<b>1 18 0</b>		
6	S <b>106</b>	8 × 9 × 4	<b>1 4 4</b>	S <b>116</b>	10½ × 9	<b>1 14 8</b>	<b>2 2 8</b>		
8	S <b>108</b>	8 × 11½ × 4	<b>1 12 0</b>	S <b>118</b>	13 × 9	<b>2 4 0</b>	<b>2 13 0</b>		
10	S <b>110</b>	8 × 14 × 4	<b>1 18 8</b>	S <b>120</b>	15½ × 9	<b>2 13 4</b>	<b>3 3 0</b>		
12	S <b>111</b>	8 × 16½ × 4	<b>2 8 0</b>	S <b>121</b>	18 × 9	<b>3 4 0</b>	<b>3 15 4</b>		

For Drilling Particulars of Ironcast Fuseboards see page 422.

**TEAK CASE** as above, but fitted **WITH SOLID BACKS** to comply with I.E.E. Regulations.

No. of D.P. Ways	Cat. No.	Price each			No. of D.P. Ways	Cat. No.	Price each		
		£	s.	d.			£	s.	d.
2	S <b>102/HJ 2</b>		<b>12</b>	<b>4</b>	6	S <b>106/HJ 6</b>	<b>1</b>	<b>10</b>	<b>4</b>
3	S <b>103/HJ 3</b>		<b>17</b>	<b>0</b>	8	S <b>108/HJ 8</b>	<b>1</b>	<b>18</b>	<b>4</b>
4	S <b>104/HJ 4</b>	<b>1</b>	<b>1</b>	<b>4</b>	10	S <b>110/HJ 10</b>	<b>2</b>	<b>6</b>	<b>8</b>
5	S <b>105/HJ 5</b>	<b>1</b>	<b>5</b>	<b>8</b>	12	S <b>111/HJ 11</b>	<b>2</b>	<b>14</b>	<b>8</b>

**TEAK CASE** as S **102/105**, but one pole fitted with **NEUTRAL** bar.

No. of D.P. Ways	Cat. No.	Price each		No. of D.P. Ways	Cat. No.	Price each	
		s.	d.			s.	d.
2	S <b>2262</b>	<b>10</b>	<b>4</b>	4	S <b>2264</b>	<b>16</b>	<b>0</b>
3	S <b>2263</b>	<b>13</b>	<b>4</b>	5	S <b>2265</b>	<b>19</b>	<b>0</b>

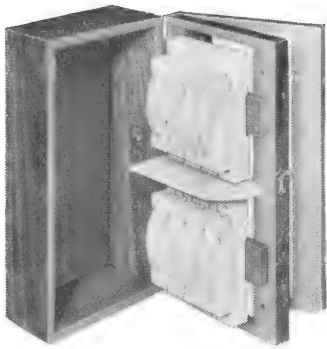
This range can be supplied in iron cases at short notice. Prices on application.

For Spare Fuse Carriers see page 427.

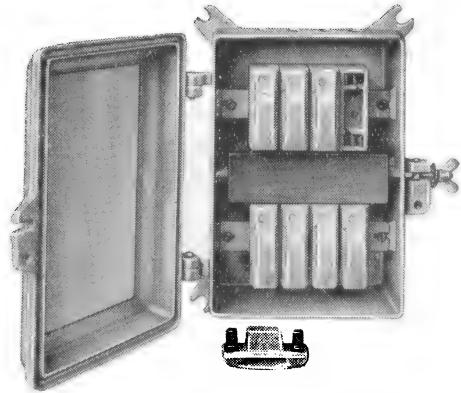
For 500-volt Fuseboards see pages 347 to 349.



## FUSE BOARDS



S 884



S 164

### " MAGNET "

**20 Amp. 250 Volt.** Home Office Pattern.

No. of D.P. Ways	Catalogue No.	TEAK Approx. Overall Dimensions ins.	Price each			Catalogue No.	Fixing Bolt Centres ins.	CAST IRON					
								Price each		Silverlac		Galvanised	
			£	s.	d.			£	s.	d.	£	s.	d.
2	S 882	11 $\frac{3}{4}$ × 4 $\frac{3}{8}$ × 4 $\frac{1}{2}$	1	6	0	S 282	5 $\frac{1}{4}$ × 13 $\frac{1}{2}$	1	1	0	1	7	8
3	S 883	11 $\frac{3}{4}$ × 5 $\frac{3}{8}$ × 4 $\frac{1}{2}$	1	0	8	S 283	6 $\frac{1}{4}$ × 13 $\frac{1}{2}$	1	5	8	1	13	4
4	S 884	11 $\frac{3}{4}$ × 6 $\frac{3}{8}$ × 4 $\frac{1}{2}$	1	5	4	S 284	7 $\frac{1}{4}$ × 13 $\frac{1}{2}$	1	10	0	1	19	4
5	S 885	11 $\frac{3}{4}$ × 7 $\frac{3}{8}$ × 4 $\frac{1}{2}$	1	8	0	S 285	8 $\frac{1}{4}$ × 13 $\frac{1}{2}$	1	15	8	2	5	4
6	S 886	11 $\frac{3}{4}$ × 8 $\frac{3}{8}$ × 4 $\frac{1}{2}$	1	14	4	S 286	9 $\frac{1}{4}$ × 13 $\frac{1}{2}$	2	1	4	2	13	4
8	S 888	11 $\frac{3}{4}$ × 10 $\frac{3}{8}$ × 4 $\frac{1}{2}$	2	1	0	S 288	11 $\frac{1}{4}$ × 13 $\frac{1}{2}$	2	7	8	3	3	4
10	S 890	11 $\frac{3}{4}$ × 12 $\frac{3}{8}$ × 4 $\frac{1}{2}$	2	15	0	S 290	13 $\frac{1}{4}$ × 13 $\frac{1}{2}$	3	10	8	3	13	4
12	S 892	11 $\frac{3}{4}$ × 14 $\frac{3}{8}$ × 4 $\frac{1}{2}$	3	4	0	S 292	15 $\frac{1}{4}$ × 13 $\frac{1}{2}$	3	13	0	4	5	4

TEAK CASE as above, but fitted with **SOLID BACKS** to comply with I.E.E. Regulations, can be supplied at short notice. Prices on application.

### " SENIOR "

**30 Amp. 250 Volt.** Home Office Pattern

No. of D.P. Ways	Catalogue No.	TEAK Approx. Overall Dimensions ins.	Price each			Catalogue No.	Fixing Bolt Centres ins.	CAST IRON					
								Price each		Silverlac		Galvanised	
			£	s.	d.			£	s.	d.	£	s.	d.
2	S 152	11 $\frac{3}{4}$ × 6 $\frac{1}{16}$ × 4 $\frac{11}{16}$	1	3	8	S 162	6 $\frac{1}{4}$ × 13	1	9	4	1	19	4
3	S 153	11 $\frac{3}{4}$ × 7 $\frac{1}{8}$ × 4 $\frac{11}{16}$	1	10	8	S 163	7 $\frac{1}{4}$ × 13	1	17	4	2	9	4
4	S 154	11 $\frac{3}{4}$ × 8 $\frac{15}{16}$ × 4 $\frac{11}{16}$	1	17	4	S 164	9 $\frac{1}{4}$ × 13	2	4	0	2	17	8
5	S 155	11 $\frac{3}{4}$ × 10 $\frac{3}{8}$ × 4 $\frac{11}{16}$	2	2	8	S 165	11 $\frac{1}{4}$ × 13	2	12	0	3	7	8
6	S 156	11 $\frac{3}{4}$ × 11 $\frac{3}{8}$ × 4 $\frac{11}{16}$	2	10	8	S 166	13 $\frac{1}{4}$ × 13	3	1	4	3	19	4
8	S 158	11 $\frac{3}{4}$ × 14 $\frac{1}{8}$ × 4 $\frac{11}{16}$	3	4	0	S 168	15 $\frac{1}{4}$ × 13	4	0	0	5	2	0
10	S 160	11 $\frac{3}{4}$ × 16 $\frac{9}{16}$ × 4 $\frac{11}{16}$	3	14	8	S 170	18 $\frac{1}{2}$ × 13	4	16	0	6	3	0

For Spare Fuse Carriers see page 427.

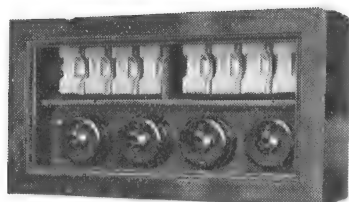
For Drilling Particulars of Ironclad Fuseboards see page 422.

For 500-volt Fuseboards see pages 347 to 349.

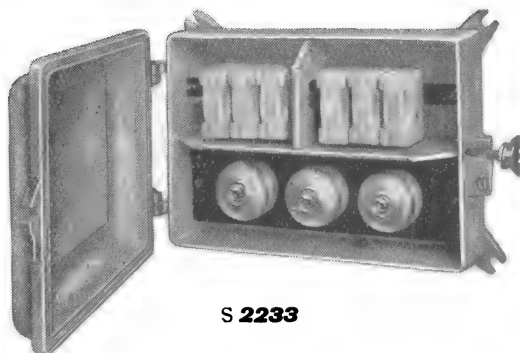
# S.E.C.

## ONE-TWO TYPE DISTRIBUTION BOARDS

WITH SINGLE-POLE SWITCHES AND DOUBLE-POLE FUSES  
250 Volt.

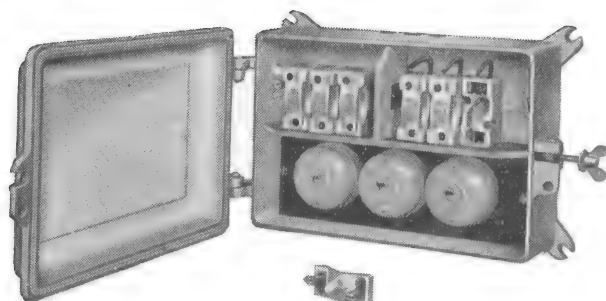


**S 2274**



**S 2233**

No. of Ways	3/5-AMP. TEAK. "Nipper" Switches "Minor" Fuses			5/8-AMP. TEAK. "Landor" Switches, "Junior" Fuses			5/8-AMP. CAST IRON "Landor" Switches, "Junior" Fuses					
	Cat. No.	Price each			Cat. No.	Price each			Cat. No.	Price each		
		£.	s.	d.		£.	s.	d.		Silverlac	Galvanised	
3	S 2273	1	6	0	S 2343	2	0	0	S 2233	2	8	0
4	S 2274	1	12	0	S 2344	2	10	0	S 2234	3	0	0
5	S 2275	1	18	0	S 2345	3	0	0	S 2235	3	12	0
6	S 2276	2	4	0	S 2346	3	10	0	S 2236	4	4	0
8	S 2278	2	16	0	S 2348	4	8	0	S 2238	5	8	0



**S 3323**

No. of Ways	10-AMP. TEAK.			15-AMP. CAST IRON. "Landor Senior" Switches, "Junior" Fuses.					
	Cat. No.	Approx. Overall Dimensions	Price each	Cat. No.	Fixing Bolt Centres	Price each			
						Silverlac	Galvanised		
		ins.	£. s. d.		ins.	£.	s. d.	£.	s. d.
3	S 173	10½ × 14½ × 5½	2 17 0	S 3323	13 × 8½	2 16 0	3 6 0	3	6 0
4	S 174	12½ × 14½ × 5½	3 8 8	S 3324	15½ × 8½	3 12 0	4 4 4	4	4 4
5	S 2375	14½ × 14½ × 5½	3 17 4	S 3325	18 × 8½	4 5 0	4 19 8	4	19 8
6	S 2376	16½ × 14½ × 5½	4 8 0	S 3326	20½ × 8½	4 16 0	5 13 0	5	13 0
8	S 178	20½ × 14½ × 5½	5 17 4						

Special boards can be built to specifications.

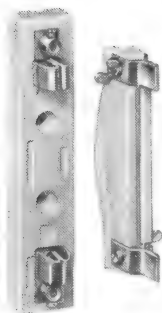
For Spare Fuse Carriers see page 427.

For Drilling Particulars of Ironclad Distribution Boards see page 422.

# S.E.C.

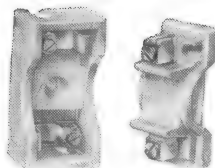
## FUSE BASES AND CARRIERS

### BEST ENGLISH VITREOUS PORCELAIN



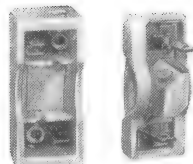
**S 228**  
"Channel"

Cat. No.	Type and Description	Dimensions of Base	Amps.	Price per doz.	
<b>S 228</b>	"Channel" Pattern, Base and Carrier	ins. $4\frac{1}{8} \times \frac{1}{8}$	10	s.	d.
<b>S 230</b>	Spare Fuse Carrier	—	10	<b>16</b>	<b>0</b>
<b>S 231</b>	Ditto, Composition $1\frac{1}{2}$ " break	—	5	<b>10</b>	<b>8</b>



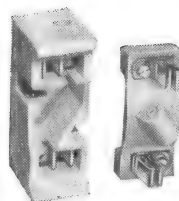
**S 2227**  
"Minor"

Cat. No.	Type and Description	Dimensions of Base	Amps.	Price per doz.	
<b>S 2227</b>	"Minor" Pattern Base and Carrier	ins. $1\frac{1}{8} \times 1$	15	s.	d.
<b>S 2229</b>	Spare Fuse Carrier	—	15	<b>9</b>	<b>4</b>
				<b>3</b>	<b>8</b>



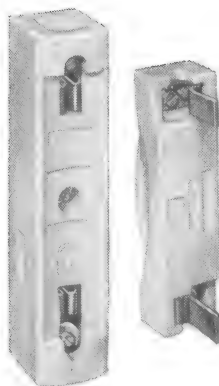
**S 337**  
"Neata"

Cat. No.	Type and Description	Dimensions of Base	Amps.	Price per doz.	
<b>S 337</b>	"Neata" Pattern Base and Carrier	ins. $2\frac{1}{4} \times 1$	10	s.	d.
<b>S 339</b>	Spare Fuse Carrier	—	10	<b>16</b>	<b>8</b>
				<b>8</b>	<b>0</b>



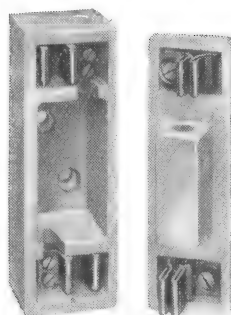
**S 107** "Junior"  
(Patent No. 381657)

Cat. No.	Type and Description	Dimensions of Base	Amps.	Price per doz.	
<b>S 107</b>	"Junior" Pattern Base and Carrier	ins. $2\frac{5}{8} \times 1\frac{1}{8}$	15	s.	d.
<b>S 109</b>	Spare Fuse Carrier	—	15	<b>21</b>	<b>4</b>
				<b>10</b>	<b>8</b>



**S 997**  
"Magnet"

Cat. No.	Type and Description	Dimensions of Base	Amps.	Price per doz.	
<b>S 997</b>	"Magnet" Pattern Base and Carrier	ins. $4\frac{7}{8} \times 1\frac{1}{8}$	20	s.	d.
<b>S 998</b>	Spare Fuse Carrier	—	20	<b>28</b>	<b>0</b>
				<b>10</b>	<b>4</b>

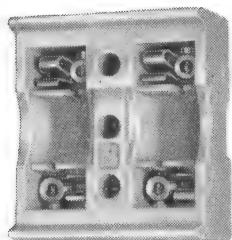


**S 157**  
"Senior"

Cat. No.	Type and Description	Dimensions of Base	Amps.	Price per doz.	
<b>S 157</b>	"Senior" Pattern Base and Carrier	ins. $3\frac{1}{8} \times 1\frac{1}{2}$	30	s.	d.
<b>S 159</b>	Spare Fuse Carrier	—	30	<b>33</b>	<b>4</b>
				<b>15</b>	<b>4</b>

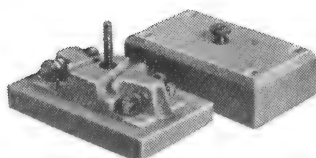
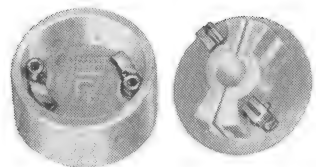
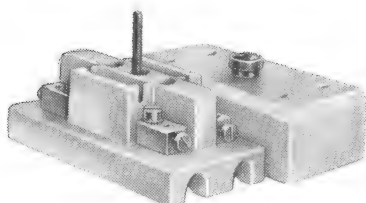
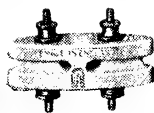
The above fuse units are supplied with front wiring terminals at each end unless otherwise specified. If required as spares for fuseboards for bus-bar connection, please specify when ordering.

All types can be fitted with back wiring (B/W) terminals except **S 157** to which threaded stems with nuts only can be fitted.

**S.E.C.****FUSE BASES AND CARRIERS****BEST ENGLISH VITREOUS PORCELAIN**

**S 331** Base  
(Fuse Carriers removed)

Cat. No.	Amps	Description	Price per doz.
<b>S 331</b>	10	D.P. 'Neata' with H.O. Fuse Carriers ..	s. d. <b>32 0</b>
<b>S 101</b>	15	"Junior," ditto ..	<b>50 8</b>

**S 852****PORCELAIN CUT-OUTS****BEST ENGLISH VITREOUS CREAM PORCELAIN****S 845****S 836****S 837****S 815****S 807****S 804**

Cat. No.	Amps.	Description	Price per doz.	
			s. d.	s. d.
<b>S 852</b>	5	S.P. 2½" dia., Round	<b>7</b>	<b>8</b>
<b>S 806</b>	10	S.P. 2½" dia., do.	<b>10</b>	<b>8</b>
<b>S 845</b>	5	S.P. Oblong, 'Zig-Zag'	<b>10</b>	<b>0</b>
<b>S 846</b>	10	Do. do.	<b>12</b>	<b>0</b>

**PLASTER LINED PATTERNS.**

Cat. No.	Amps	Description	Price per doz.	
			Cream	Black
<b>S 836</b>	10	S.P. 2½" dia., Round	<b>14 8</b>	—
<b>S 840</b>	10	S.P. 3½" × 1½" Oblong	<b>21 4</b>	<b>24 0</b>
<b>S 841</b>	20	S.P. 3½" × 2½" do.	—	<b>49 4</b>

**DETACHABLE PATTERN.**

Complying with Home Office requirements.

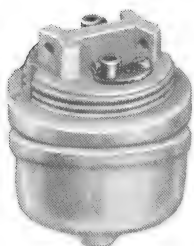
Cat. No.	Amps.	Description	Price per doz.	
			s. d.	s. d.
<b>S 837</b>	5	S.P. 2½" Round ..	<b>16</b>	<b>4</b>
<b>S 837A</b>	—	Spare Tops ..	<b>8</b>	<b>8</b>

**DOUBLE POLE.**

Cat. No.	Amps.	Description	Finish.	Price per doz.
<b>S 815</b>	5	Oblong ..	Cream	s. d. <b>24 0</b>

**AERIAL FUSES**

Cat. No.	Amps.	Description	Price per doz.
<b>S 804</b>	5	2½" Oval ..	s. d. <b>10 8</b>
<b>S 807</b>	15	4½" Rect'lar	<b>16 0</b>

**S.E.C.****PORCELAIN CEILING ROSES****BEST ENGLISH VITREOUS CREAM PORCELAIN****S 742****S 746****S 750**

Cat. No.	Diameter ins.	Description	Price per doz.		
<b>S 742</b>	2½	Two-plate 2" fixing centres ..	£	s.	d.
<b>S 762</b>		Three-plate, ditto ..		<b>6</b>	<b>0</b>
<b>S 761</b>		Four-plate, 3 hole fixing ..	<b>1</b>	<b>4</b>	<b>0</b>
<b>S 750</b>		Two-plate, slotted type loop-in terminal .. ..		<b>12</b>	<b>0</b>
<b>S 746</b>	2 9/16	Two-plate with fuse chamber ..	<b>1</b>	<b>4</b>	<b>0</b>

**BEST QUALITY.** Made strictly in accordance with **British Standard Specification.**

<b>S 747</b>	} ins.	{	Two-plate, 2" fixing centres ..	<b>8</b>	<b>8</b>
<b>S 763</b>			Three-plate, ditto ..	<b>10</b>	<b>8</b>

**CONDUIT BOX TYPE.**

Cat. No.	Diam. ins.	Description	Price per doz.	
<b>S 765</b>	2½	With fixing screws to fit B.S.S. Conduit Boxes ..	<b>5</b>	<b>0</b>
<b>S 764</b>	2	To fit 2" dia. Conduit Box, 1½" fixing centres (fixing screws extra) ..	<b>4</b>	<b>8</b>

**S 765**

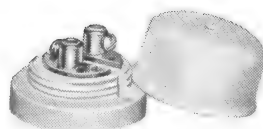
1½" × ⅝" round head Whitworth screws for **S 764** (when used with 2" Conduit Box) .. **2s. 4d.** per gross

**CLEAT WIRING DETACHABLE TOP PATTERN.**

Cat. No.	Diam. ins.	Description	Price per doz.	
<b>S 767</b>	2½	With concealed loop-in terminals for cleat wiring	<b>15</b>	<b>4</b>
<b>S 767A</b>		Spare tops only	<b>7</b>	<b>8</b>

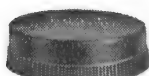
**S 767****PORCELAIN JUNCTION BOXES**

Cat. No.	Amps.	Diam. ins.	Description	Price per doz.	
<b>S 802</b>	15	2½	Two-plate { Cream Black	<b>16</b>	<b>0</b>
<b>S 803</b>	15	2½	Two-plate { Cream three-way	<b>18</b>	<b>8</b>
<b>S 853</b>	—	4½	Iron covers for <b>S 802/3</b>	<b>13</b>	<b>4</b>

**S 802**

**S.E.C.****BAKELITE CEILING ROSES**

2-in. B.S.S. Fixing Centres.

**S 752****S 744****S 744C**

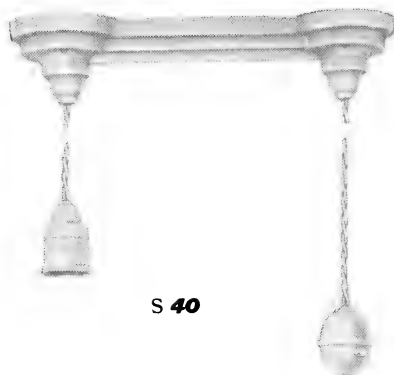
Cat. No.	Diam.	Description	Finish	Price per doz.	
	ins.			s.	d.
S 752	2½	Two-terminal with ¼" hole in cap..	Brown	6	0
			Cream	7	4
S 752A	2½	Ditto, with ½" hole in cap ..	Brown	6	0
			Cream	7	4
S 753	2½	Three-terminal ..	Brown	7	4
			Cream	8	8

**DETACHABLE TYPE.**

Cat. No.	Diam.	Description	Finish	Price per doz.	
	ins.			s.	d.
S 744	2½	Two-pin with ¼" hole in cap ..	Brown	18	8
			Cream	24	0
S 744A	2½	Ditto, with ½" hole in cap ..	Brown	18	8
			Cream	24	0
S 744C	—	Cap. only, to cover socket terminals	Brown	3	8
			Cream	5	4

**TWIN CEILING ROSES***(Patent No. 409420)*

A simplified method of wiring Bed Pendants.  
Wire to one point only.

**S 40**

Cat. No.	Description	Price per doz.
S 40	{ Cream Bakelite Twin Ceiling Roses, complete with specially shaped white enamelled block }	£ 2 s. 8 d. Exclusive of flexible, lampholder and switch.

## "NIPPER" SWITCHES

### RAPID MAKE RAPID BREAK

(Patent No. 353646)

**3/5 Amp. 250 Volt.**

All mechanism totally insulated.

2-in. base. **Surface Type.** Fixing centres 1½ in.

Cat. No.	Amps	Type	Finish		Price per doz.	
			Cover and Dolly, Bakelite	Base, Porcelain		
S 25	3/5	One-way	Brown	Cream	s. 10	d. 4
			Brown	Brown	s. 10	d. 8
			Cream	Cream	s. 12	d. 4
S 26	3	Two-way	Brown	Cream	s. 17	d. 0
			Brown	Brown	s. 17	d. 4
			Cream	Cream	s. 19	d. 0



**S 25**  
Surface

2-in. flange. **Semi-recessed Type.** Fixing centres 1½ in.

Cat. No.	Amps.	Type.	Finish		Price per doz.	
			Cover and Dolly	Base		
S 28	3/5	One-way	Brown	Cream	s. 10	d. 8
			Brown	Brown	s. 11	d. 0
			Cream	Cream	s. 12	d. 8
S 29	3	Two-way	Brown	Cream	s. 17	d. 4
			Brown	Brown	s. 17	d. 8
			Cream	Cream	s. 19	d. 4

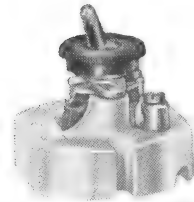


**S 28**  
Semi-recessed

### Flush Type.

With Bakelite Dolly and Ring.

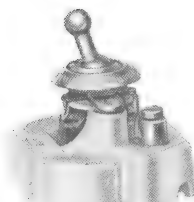
Cat. No.	Amps.	Type	Finish	Price per doz.	
			Dolly and Ring	(including rings)	
S 31	3/5	One-way	Brown bakelite	s.	d.
S 32	3	Two-way	" "	12	8
				19	4



**S 31**  
Flush (with bakelite dolly and ring)

With Brass Dolly and Ring.

Cat. No.	Amps.	Type	Finish	Price per doz. (including rings)	
			Dolly and Ring		
S 21	3/5	One-way	Polished brass*	s.	d.
S 22	3	Two-way	" " *	11	8
				18	4



**S 21**  
Flush (with brass dolly and ring)

With Brass Dolly and Ring (Earthed Pattern).

Cat. No.	Amps.	Type	Finish	Price per doz. (including rings)
S 51	3/5	One-way	Polished brass* (with earth straps to fixing holes)	s. 12 d. 8
S 52	3	Two-way		s. 19 d. 4

With Bakelite Dolly and Long Plate Fixing Screws.

Cat. No.	Amps.	Type	Finish	Price per doz.	
S 45	3/5	One-way	Brown dolly	s. 10	d. 4
S 46	3	Two-way	" "	s. 17	d. 0

**Rubber Pads** (for mounting switches in boxes), Cat. No. S 33, 1s. 8d. per dozen.

\* For Other Finishes see page 438. For "Nipper" Switch Plate Assemblies see page 451.

For Conduit Boxes to fit Semi-recessed and Flush Types see pages 282 to 297.

# S.E.C.

## "NIPPER" SWITCHES

**RAPID MAKE**

**RAPID BREAK**

(Patent No. 353646.)

**10 Amp.**

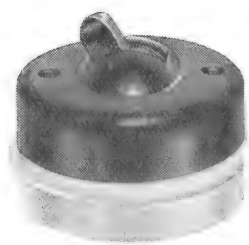
**250 Volt.**

All mechanism totally insulated.



**S 65**

Surface type.



**S 68**

Semi-recessed type.

2½ in. base.

**Surface Type.**

Fixing Centres, 1½ in.

Cat. No	Amps.	Type	Finish.		Price per doz.	
			Cover and Dolly, Bakelite	Base, Porcelain		
S 65	10	One-way	Brown	Cream	s. <b>29</b>	d. <b>4</b>
			Brown	Brown	<b>30</b>	<b>8</b>
			Cream	Cream	<b>34</b>	<b>0</b>

2½ in. flange.

**Semi-recessed Type.**

Fixing Centres, 1½ in.

Cat. No	Amps.	Type	Finish		Price per doz	
			Cover and Dolly, Bakelite	Base, Porcelain		
S 68	10	One-way	Brown	Cream	s. <b>32</b>	d. <b>0</b>
			Brown	Brown	<b>33</b>	<b>4</b>
			Cream	Cream	<b>36</b>	<b>8</b>



## “LANDOR JUNIOR” SWITCHES

## RAPID MAKE

## RAPID BREAK

**3/5 Amp. 250 Volt.**



**S 213**  
Surface

Patent Nos.

312854

314146

413088



**S 263**  
Semi-recessed

## ALL-INSULATED BAKELITE COVERS AND DOLLIES.

2-in. base.

**Surface Type.**

Fixing centres  $1\frac{1}{2}$  in.

Cat. No.	Amps.	Type	Cover and Dolly, Bakelite	Finish	Base, Porcelain	Price per doz.
						£ s. d.
S <b>213</b>	3/5	One-way	Brown Black Oak Brown Oak Black CREAM	}      	Cream   Brown Brown Black Cream	   } <b>13 4</b>   } <b>13 8</b>  <b>15 4</b>
S <b>214</b>	3	Two-way	Brown Black Oak Brown Oak Black CREAM	}      	Cream   Brown Brown Black Cream	   } <b>1 0 0</b>   } <b>1 0 4</b>  <b>1 2 0</b>

2-in. flange.

### Semi-recessed Type.

Fixing centres  $1\frac{1}{2}$  in.

Cat. No.	Amps.	Type	Finish		Price per doz.			
			Cover and Dolly, Bakelite	Base, Porcelain	£	s.	d.	
S 263	3/5	One-way	Brown	}	Cream	£	s.	d.
			Black					
			Oak					
			Brown	}	Brown			
			Oak					
Black								
CREAM		Black	}	Black				
	Cream							
						14	0	
						14	4	
						16	0	
S 264	3	Two-way	Brown	}	Cream			
			Black					
			Oak					
			Brown	}	Brown			
			Oak					
Black								
CREAM		Cream	}	Black				
						1	0	8
						1	1	0
						1	2	8

*For Conduit Boxes to fit Semi-Recessed Types see pages 282 to 297.*

# S.E.C.

## "SLICK" SWITCHES

STEATITE LINK ACTION

5 Amp. 250 Volt.

(Patent Nos. 271991, 365176, 365177, 422007)



**S 385**  
Surface



**S 498**  
Semi-recessed



**S 406**  
Flush

### BRASS COVERS AND DOLLIES.

2½-in. base.

**Surface Type.**

1½-in. fixing centres.

Pattern	Finish		ONE-WAY		TWO-WAY	
	Cover.	Base	Cat. No.	Price per doz.	Cat. No.	Price per doz.
Standard .. ..	P.B. Cream		S 385	12 0	S 556	20 0
Fuse Terminal (L.V.) ..			S 429	21 0	—	—
"Deeble" Slotted Base ..			S 424	13 8	—	—
Two-way and Off ..			—	—	S 558*	32 0
3rd Earthing Terminal ..			S 397	19 0	—	—
Loop-in Terminal ..			S 372	18 0	—	—
Secret† .. ..			S 394	19 4	S 404	27 4
D.P. (Coupled) Mounted ..			S 411	46 8	—	—
Ditto, Unmounted ..			S 412	33 4	—	—

2½-in. flange.

**Semi-recessed Type.**

1½-in. fixing centres.

Pattern	Finish		ONE-WAY		TWO-WAY	
	Cover	Base.	Cat. No.	Price per doz.	Cat. No.	Price per doz.
Standard .. ..	P.B. Cream		S 498	12 8	S 476	20 8
Two-way and Off ..			—	—	S 560*	32 8

2-in. base.

**Flush Type.**

1½-in. fixing centres.

Pattern	Finish		ONE-WAY		TWO-WAY	
	Dolly and Ring		Cat. No.	Price per doz. (including Rings)	Cat. No.	Price per doz. (including Rings)
Standard .. ..	P.B. Cream	Ditto	S 406	13 4	S 405	21 4
Two-way and Off ..			—	—	S 561	33 8

1½-in. base.

**3 Amp. Surface Type.**

1½-in. fixing centres.

Pattern	Finish		ONE-WAY		TWO-WAY	
	Cover	Base	Cat. No.	Price per doz.	Cat. No.	Price per doz.
Standard .. ..	P.B.	Cream	S 373*	12 0	S 437*	18 8

2½-in. base.

**10 Amp. Surface Type.**

2½-in. fixing centres.

Pattern	Finish		ONE-WAY	
	Cover	Base	Cat. No.	Price per doz.
Standard .. ..	P.B. Cream		S 388	28 8
D.P. (Coupled), Unmounted ..			S 416	77 4

\* Cream bases only. Flush Types supplied with front wiring (F/W) Terminals, unless back wiring (B/W) specified.

For Other Finishes (excluding S 411, 412, 388 and 416) see page 438.

† For Keys for Secret Switches see page 439.

# S.E.C.

## "SLICK" SWITCHES

STEATITE LINK ACTION

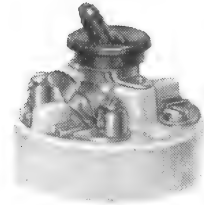
5 Amp. 250 Volt.



**S 365**  
Surface



**S 368**  
Semi-recessed



**S 352**  
Flush

### ALL-INSULATED BAKELITE COVERS AND DOLLIES.

2½-in. base

**Surface Type.**

1½-in. fixing centres.

Pattern	Finish		ONE-WAY			TWO-WAY		
	Cover	Base	Cat. No.	Price per doz.		Cat. No.	Price per doz.	
Standard ..	Brown Cream		S 365	13	4	S 366	21	4
Fuse Terminal (L.V.)			S 359	22	4	—	—	—
Loop-in Terminal ..			S 392	19	4	—	—	—
"Deeble" Slotted								
Base			S 454	15	0	—	—	—
Two-way and Off..			—	—	—	S 559*	33	4

2½-in. flange.

**Semi-recessed Type.**

1½-in. fixing centres.

Pattern	Finish		ONE-WAY			TWO-WAY		
	Cover	Base	Cat. No.	Price per doz.		Cat. No.	Price per doz.	
Standard ..	Brown Cream		S 368	14	0	S 369	22	0
Two-way and Off ..			—	—	—	S 563*	34	0

2-in. base.

**Flush Type.**

1½-in. fixing centres.

Pattern	Finish		ONE-WAY			TWO-WAY		
	Dolly and Ring		Cat. No.	Price per doz. (Includ. Rings)		Cat. No.	Price per doz. (including Rings)	
Standard ..	Brown		S 351	15	0	S 352	23	0
Two-way and Off ..			—	—	—	S 562	35	0

Flush Type supplied with front wiring (F/W) terminals,  
unless back wiring (B/W) specified.

### EXTRAS.

Finish	Description	Extra Price per doz.
Cream Covers and Dollies .. .. . Black or Oak Covers .. .. . Brown or Black Bases (where available)	Surface and	s. d. 2 0
	Semi-recessed	No extra
	types only	8
Cream Rings and Dollies .. .. . Black Rings and Dollies .. .. . Oak Rings and Brown Dollies .. .. .	Flush types only	2 0
		No extra
		No extra
Earth Straps to fixing hole screws ..	All types	1 0

\* Cream Bases only.

# S.E.C.

## “LANDOR” SWITCHES

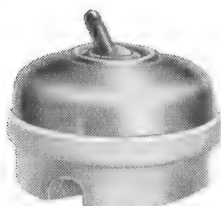
**RAPID MAKE      RAPID BREAK**

(Patent Nos. 312854, 314146, 353646, 354935, 364121, 413088, 422007).

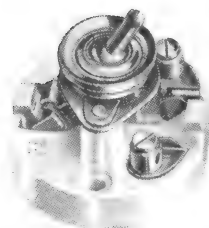
**5/8 Amp.    250 Volt.**



**S 215**  
Surface



**S 218**  
Semi-recessed



**S 221**  
Flush

### BRASS COVERS AND DOLLIES.

2¼-in. base.

**Surface Type.**

1½-in. fixing centres.

Pattern	Amps.	Finish		ONE-WAY		TWO-WAY	
		Cover	Base	Cat. No.	Price per doz. s. d.	Cat. No.	Price per doz. s. d.
Standard .. ..	5/8	P.B.	Cream	S 215	13 4	S 216	21 4
Earthed .. ..	5/8			S 245	14 4	S 246	22 4
3rd Earthing Terminal	5/8			S 247	20 4	—	—
Loop-in Terminal ..	5/8			S 242	19 4	—	—
Fuse Terminal (L.V.)	5/8			S 217	22 0	—	—
Secret with Locked Cover* .. ..	5/8			S 225	20 8	S 226	28 8
SILENT .. ..	5/8			S 1625	20 0	S 1626	28 0

2¼-in. flange.

**Semi-recessed Type.**

1½-in. fixing centres.

Pattern	Amps.	Finish		ONE-WAY		TWO-WAY	
		Cover	Base	Cat. No.	Price per doz. s. d.	Cat. No.	Price per doz. s. d.
Standard .. ..	5/8	P.B.	Cream	S 218	14 0	S 219	22 0
Earthed .. ..	5/8			S 248	15 0	S 249	23 0
SILENT .. ..	5/8			S 1628	20 8	S 1629	28 8

2-in. base.

**Flush Type.**

1½-in. fixing centres.

Pattern	Amps.	Finish		ONE-WAY		TWO-WAY	
		Dolly and Ring		Cat. No.	Price per doz. (including rings) s. d.	Cat. No.	Price per doz. (including rings) s. d.
Standard .. ..	5/8	P.B.		S 221	14 0	S 222	22 0
Earthed .. ..	5/8			S 251	15 0	S 252	23 0
SILENT .. ..	5/8			S 1631	21 8	S 1632	29 8

Flush Type supplied with Front Wiring (F/W) Terminals, unless Back Wiring (B/W) specified.

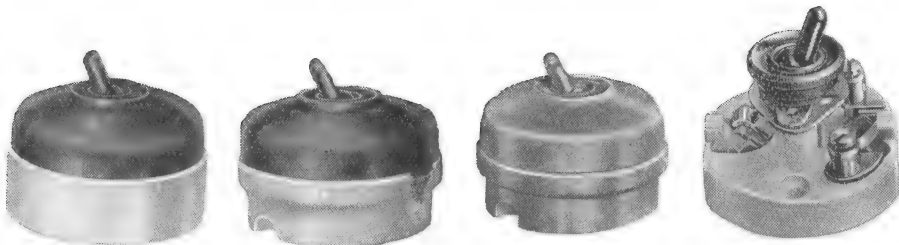
For Other Finishes see page 438.

\* For Keys for Secret Switches see page 439.

# **“LANDOR” SWITCHES** **RAPID MAKE      RAPID BREAK**

*(Patent Nos. 312854, 314146, 353646, 354935, 364121, 413088).*

**5/8 Amp.      250 Volt.**



**S 255**  
Surface

**S 258**  
Semi-recessed

**S 258**  
Semi-recessed  
All Cream

**S 261**  
Flush

## **ALL-INSULATED BAKELITE COVERS AND DOLLIES.**

2½-in. base

**Surface Type.**

1½-in. fixing centres.

Pattern	Amps.	Finish		ONE-WAY.		TWO-WAY	
		Cover	Base	Cat. No.	Price per doz. s. d.	Cat. No.	Price per doz. s. d.
Standard .. ..	5/8	} Brown Cream		S 255	14 8	S 256	22 8
Safety Shield .. ..	5/8			S 255M	23 4	S 256M	31 4
Fixed (2-screw) Cover	5/8			S 243	18 4	S 244	26 4
Locked Ring Cover ..	5/8			S 253	18 4	S 254	26 4
Secret† .. ..	5/8			S 185	22 0	S 186	30 0
SILENT .. ..	5/8			S 1635	21 4	S 1636	29 4
"Deeble" Slotted	5/8						
Base .. ..	5/8			S 260	18 8	---	---
Fuse Terminal (L.V.)	5			S 257*	26 8	---	---

\* Cream bases only.

2½-in. flange.

**Semi-recessed Type.**

1½-in. fixing centres.

Pattern	Amps.	Finish.		ONE-WAY		TWO-WAY	
		Cover	Base	Cat. No.	Price per doz. s. d.	Cat. No.	Price per doz. s. d.
Standard .. ..	5/8	} Brown Cream		S 258	15 4	S 259	23 4
Safety Shield .. ..	5/8			S 258M	24 0	S 259M	32 0
Fixed (2-screw) Cover	5/8			S 293	19 0	S 294	27 0
Secret† .. ..	5/8			S 188	22 8	S 189	30 8
SILENT .. ..	5/8			S 1638	22 0	S 1639	30 0

2-in. base.

**Flush Type.**

1½-in. fixing centres.

Pattern	Amps.	Finish	ONE-WAY		TWO-WAY	
			Dolly and Ring	Cat. No. Price per doz. (inc. rings) s. d.	Cat. No. Price per doz. (inc. rings) s. d.	
Standard .. ..	5/8	} Brown {	S 261	16 4	S 262	24 4
SILENT .. ..	5/8		S 1641	23 4	S 1642	31 4

Flush Type supplied with Front Wiring (F/W) Terminals,  
unless Back Wiring (B/W) specified.

*For Other Finishes see page 439.*

† For Keys for Secret Switches and Locking Rings see page 439.

# S.E.C.

## "LANDOR" SWITCHES

### RAPID MAKE      RAPID BREAK

Patent No. 365636.

**5 Amp.      250 Volt.**

**INTERMEDIATE AND DOUBLE POLE.**



**S 975**  
Surface



**S 978**  
Semi-recessed



**S 911**  
Flush

### BRASS COVERS AND DOLLIES. Surface Type.

Pattern	Amps.	Finish		Cat. No.	Price per doz.	
		Cover	Base		s.	d.
Intermediate .. ..	5	P.B.	Cream	<b>S 975</b>	<b>40</b>	<b>0</b>
D.P. Single Base ..	5			<b>S 905</b>	<b>33</b>	<b>4</b>
D.P. Coupled, mounted on teak block ..	5			<b>S 223</b>	<b>49</b>	<b>4</b>
Ditto, unmounted ..	5			<b>S 224</b>	<b>36</b>	<b>0</b>

### Semi-recessed Type.

Pattern	Amps.	Finish		Cat. No.	Price per doz.	
		Cover	Base		s.	d.
Intermediate .. ..	5	P.B.	Cream	<b>S 978</b>	<b>42</b>	<b>8</b>
D.P. Single Base ..	5			<b>S 908</b>	<b>36</b>	<b>0</b>

### Flush Type.

Pattern	Amps.	Finish		Cat. No.	Price per doz. (including rings)		
		Dolly and Ring			s.	d.	
Intermediate ..	5	}	P.B.	{	<b>S 981</b>	<b>42</b>	<b>8</b>
D.P. Single Base ..	5				<b>S 911</b>	<b>36</b>	<b>0</b>

### EXTRAS.

Finish		Extra Price per dozen					
		Surface and Semi-recessed		Flush			
		s.	d.	Dolly and Bridge		Ring	
Black Bronze (B.B.)		<b>1</b>	<b>0</b>		<b>8</b>		<b>4</b>
Antique Brass (A.B.)							
Gilt Colour (G.C.)							
Florentine Bronze (F.B.)							
Oxidized Copper (O.C.)							
Antique Copper (A.C.)		<b>1</b>	<b>4</b>	<b>1</b>	<b>4</b>		<b>6</b>
Real Bronze Colour (R.B.C.)							
Coinage Bronze (C.B.)							
Nickel Plate (N.P.)		<b>2</b>	<b>4</b>	<b>1</b>	<b>8</b>		<b>8</b>
Oxidized Silver (O.S.)		<b>5</b>	<b>8</b>	<b>2</b>	<b>8</b>	<b>1</b>	<b>0</b>
Antique Silver (A.S.)							
Chromium Plated (C.P.)		<b>6</b>	<b>8</b>	<b>6</b>	<b>4</b>	<b>2</b>	<b>0</b>
Black or Brown Bases ..			<b>8</b>				
Earth straps to fixing screw holes (all types) .. ..		<b>1</b>	<b>0</b>				

# **"LANDOR" SWITCHES** **RAPID MAKE      RAPID BREAK**

*Patent No. 365636.*

**5 Amp.                      250 Volt.**

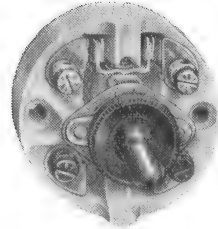
**INTERMEDIATE AND DOUBLE POLE (SINGLE BASE).**



**S 985**  
Surface



**S 988**  
Semi-recessed



**S 931**  
Flush

**ALL-INSULATED BAKELITE COVERS AND DOLLIES.**

## **Surface Type.**

Pattern	Amps.	Finish		Cat. No.	Price per doz.	
		Cover.	Base.		s.	d.
Intermediate ..	5	} Brown	Cream {	<b>S 985</b>	<b>41</b>	<b>4</b>
D.P. Single Base	5			<b>S 925</b>	<b>34</b>	<b>8</b>

## **Semi-recessed Type.**

Pattern	Amps.	Finish		Cat. No.	Price per doz.	
		Cover	Base		s.	d.
Intermediate ..	5	} Brown	Cream {	<b>S 988</b>	<b>44</b>	<b>0</b>
D.P. Single Base	5			<b>S 928</b>	<b>37</b>	<b>4</b>

## **Flush Type.**

Pattern	Amps.	Finish		Cat. No.	Price per doz. including rings	
		Dolly and Ring				
Intermediate ..	5	}	Brown	{	s.	d.
D.P. Single Base	5				S <b>991</b>	<b>44</b>
					S <b>931</b>	<b>37</b>
						<b>4</b>

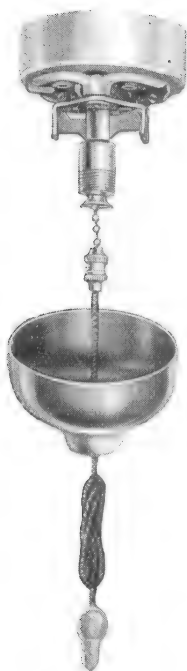
## **EXTRAS.**

Description	Extra Price per dozen					
	Surface and Semi-recessed		Flush		Ring	
	s.	d.	s.	d.	s.	d.
Black or Oak Covers (Dollies to match) ..	no extra		no extra		no extra	
Cream Covers and Dollies .. ..	<b>2</b>	<b>0</b>	—	—	—	—
Cream Dollies and Rings (Flush) .. ..	—	—	<b>1</b>	<b>4</b>	<b>1</b>	<b>0</b>
Brown or Black Bases (where available) ..	—	<b>8</b>	—	—	—	—
<b>S 396</b> Locking Ring Keys for Secret Switches .. ..	<b>3</b>	<b>8</b>	—	—	—	—
<b>S 187</b> Insulated Operating Keys for Secret Switches .. ..	<b>12</b>	<b>0</b>	—	—	—	—
Earth straps to fixing screw holes (all types)	<b>1</b>	<b>0</b>	—	—	—	—

# S.E.C.

## CEILING SWITCHES

(Patent No. 354911)



**S 227**

With 6-ft. cord and acorn.

2-in. base "LANDOR JUNIOR" 1½-in. fixing centres  
Single Cord BRASS COVERS Surface

Cat. No.	Amps.	Ways	Finish	Price per doz.		
S 227	3/5	1	P.B. on Cream	£	s.	d.
S 229	3	2	" "	1	11	0
				1	17	8

Single Cord BAKELITE COVERS Surface

Cat. No.	Amps.	Ways	Price per doz.					
			Brown on Cream			Cream on Cream		
S 127	3/5	1	£	s.	d.	£	s.	d.
S 129	3	2	1	12	4	1	15	8
			1	19	0	2	2	4

2¼-in. base "LANDOR" 1½-in. fixing centres  
Single Cord BRASS COVERS Semi-recessed

Cat. No.	Amps.	Ways	Finish	Price per doz.		
S 237	5/8	1	P.B. on Cream	£	s.	d.
S 239	5	2	" "	1	12	4
				2	0	4

Single Cord BAKELITE COVERS Semi-recessed

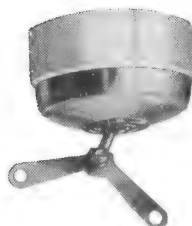
Cat. No.	Amps.	Ways	Price per doz.					
			Brown on Cream			Cream on Cream		
S 137	5/8	1	£	s.	d.	£	s.	d.
S 139	5	2	1	12	8	1	16	8
			2	0	8	2	4	8

Fish-tail Dolly Two-Cord BRASS COVERS Surface

Cat. No.	Amps.	Ways	Finish	Price per doz. exclusive of cord	
S 220	5/8	1	P.B. on Cream	s.	d.
				24	0

2¼-in. base. "SLICK" 1½-in. fixing centres.  
Fish-tail Dolly Two-Cord Surface

Cat. No.	Amps.	Ways	Finish	Price per doz. exclusive of cord	
S 499	5	1	P.B. on Cream	s.	d.
				22	8

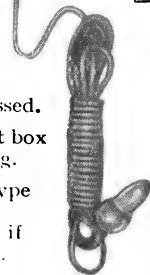


**S 220**

**S 237**

Semi-recessed.  
For conduit box mounting.

Surface type can be supplied if desired.



### EXTRAS.

Finish	Extra Price per doz.	
Black Bronze (B.B.)	s.	d.
Antique Brass (A.B.), Gilt Colour (G.C.), Florentine Bronze (F.B.), Oxidized Copper (O.C.), Real Bronze Colour (R.B.C.)	1	4
Nickel Plated (N.P.)	2	4
Oxidized Silver (O.S.)	4	0
Chromium Plated (C.P.)	6	8
Black or Brown Bases (where available)	12	0
Earth straps to fixing screw holes	8	
	1	0



## ADJUSTABLE FLUSH SWITCHES AND SOCKET OUTLETS

(Patent Nos. 378118—378842—369377).

For use in one, two or three-way conduit boxes, with brass or bakelite flush plates, having 2-in. centres.

These accessories provide a ready means of adjusting the levels of flush switches and socket outlets when fitted in conduit boxes. The adjustment is accomplished by a simple manipulation of two screws only. Considerable time and expense is saved compared with the usual form of "grid" fixing.

### "LANDOR" FLUSH SWITCHES WITH ADJUSTING DEVICE.

Cat. No.	Capacity Amps.	Description	Price per doz. (including rings)		
			£	s.	d.
S 4221	5/8	One-way, Polished brass* ..	1	3	0
S 4222	5	Two-way do. ..	1	11	0
S 4261	5/8	One-way, Brown bakelite ..	1	5	8
S 4262	5	Two-way do. ..	1	13	8
S 4981	5	Intermediate, Polished brass	2	11	8
S 4991	5	Do. Brown bakelite	2	13	0

### 2-AMP. TWO-PIN FLUSH SOCKET OUTLETS WITH ADJUSTING DEVICE.

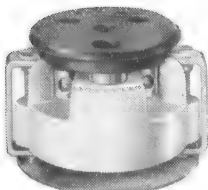
Cat. No.	Ring	Description Plug	Price per doz. (including plugs)		
			£	s.	d.
S 4758	Polished Brass*	S 678 Cream ..	2	0	0
S 4759		S 678 Brown bakelite	1	17	0
S 4734		S 644 Handshield ..	2	0	8

### 5-AMP. TWO-PIN FLUSH SOCKET OUTLETS WITH ADJUSTING DEVICE.

Cat. No.	Ring	Description Plug	Price per doz. (including plugs)		
			£	s.	d.
S 4773	Polished Brass*	S 676 Cream porcelain	2	2	8
S 4774		S 690 Brown bakelite	2	0	8
S 4672		S 793 B'lte handshield	2	10	8
S 4673	Brown Bakelite	S 693 do. (single entry)	2	4	0
S 4715		S 690 Brown bakelite	2	0	8
S 4716		S 793 B'lte handshield	2	10	8
S 4717		S 693 do. (single entry)	2	4	0
S 4718		S 676 Cream porcelain	2	8	4

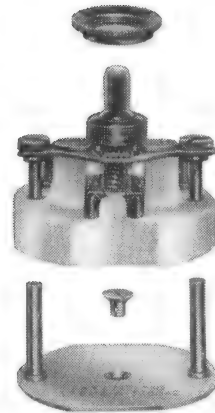
\* Prices for special finishes on application.

### 5-AMP. THREE-PIN FLUSH SOCKET OUTLETS WITH ADJUSTING DEVICE.

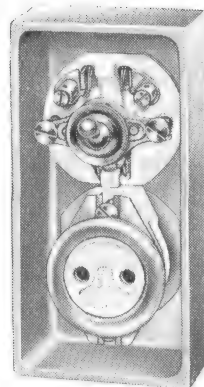


S 4640  
(without plug)

Cat. No.	Description	Price per doz. (including plugs)		
		£	s.	d.
S 4640	Porcelain base with brown bakelite (over) disc and S 891A bake- lite plug ..	2	16	0



S 4221  
(dismantled to show  
construction)



C 5912

Showing two-way box with one-way adjustable switch and 5-amp. two-pin adjustable flush socket outlet

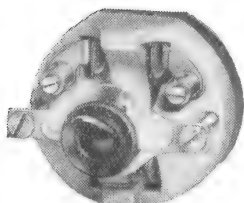
In the two-way and three-way boxes the switches or socket outlets can be fitted either vertically, or horizontally.

For suitable Conduit Boxes see pages 288 and 289.

# S.E.C.

## ADJUSTABLE FLUSH SWITCHES AND SOCKET OUTLETS

(Patent Nos. 378118—378842—369377).

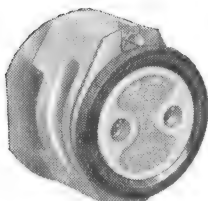


**S 4321**

For use in one or two-way conduit boxes, with brass or bakelite flush plates, having  $2\frac{1}{4}$ -in. centres. These accessories provide a ready means of adjusting the levels of flush switches and socket outlets when fitted in conduit boxes. The adjustment is accomplished by a simple manipulation of two screws only. Considerable time and expense is saved compared with the usual form of "grid" fixing.

### 15-AMP. "LANDOR SENIOR" FLUSH SWITCHES WITH ADJUSTING DEVICE.

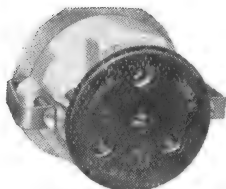
Cat. No.	Capacity	Description	Price per doz. (including rings)		
	amps.		£	s.	d.
<b>S 4321</b>	15	One-way with brown bakelite dolly and ring .. ..	<b>2</b>	<b>4</b>	<b>0</b>



**S 4828**  
(Without plug).

### 15-AMP. TWO-PIN FLUSH SOCKET OUTLETS WITH ADJUSTING DEVICE.

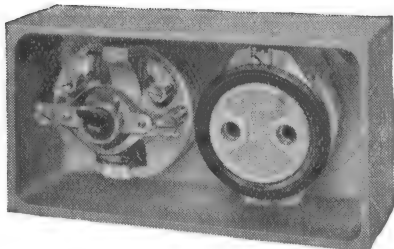
Cat. No.	Description		Price per doz. (including plugs)		
	Ring	Plug	£	s.	d.
<b>S 4828</b>	Brown bakelite	<b>S 696</b> brown bakelite, flat top ..	<b>3</b>	<b>6</b>	<b>0</b>



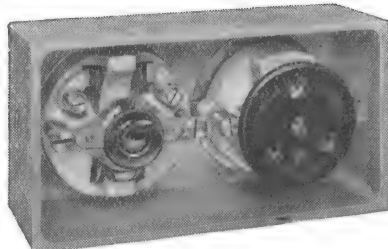
**S 4668**  
(Without plug).

### 15 AMP. THREE-PIN FLUSH SOCKET OUTLETS WITH ADJUSTING DEVICE.

Cat. No.	Disc	Plug	Price per doz. (including plugs)		
			£	s.	d.
<b>S 4668</b>	Brown bakelite	<b>S887A</b> brown bakelite, flat top ..	<b>4</b>	<b>12</b>	<b>0</b>



Two-Gang box with one switch and one two-pin socket outlet.



Two-Gang box with one switch and one three-pin socket outlet.

The switches or socket outlets can be fitted either vertically or horizontally.

For Face Plates see page 450.

For suitable Conduit Boxes see pages 288 and 289.

# S.E.C.

## "LANDOR SENIOR" SWITCHES

Patented.

**RAPID MAKE**

**RAPID BREAK**

**10/15 Amp.**

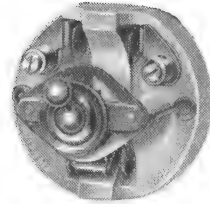
**250 Volt.**



**S 265**



**S 268**



**S 271**

### BRASS COVERS AND DOLLIES.

2  $\frac{1}{8}$ -in. base.

**Surface Type.**

2  $\frac{1}{8}$ -in. fixing centres.

Pattern	Amps.	Finish	ONE-WAY		TWO-WAY	
			Cat. No.	Price per doz.	Cat. No.	Price per doz.
Standard .. ..	10/15	P.B. on Cream	S 265	30 0	S 266	60 0
Earthed .. ..	10/15		S 275	32 0	S 276	62 0

Pattern	Amps.	Finish	Cat. No.	Price per dozen
D.P. Single Base ..	15	P.B. on Cream	S 915	s. 56 d. 8
D.P. coupled mounted on teak block	15	do.	S 273	109 4
Ditto unmounted	15	do.	S 274	82 8

2  $\frac{1}{8}$ -in. flange.

**Semi-recessed Type.**

2  $\frac{1}{8}$ -in. fixing centres.

Pattern	Amps.	Finish	ONE-WAY		TWO-WAY	
			Cat. No.	Price per doz.	Cat. No.	Price per doz.
Standard .. ..	10/15	P.B. on Cream	S 268	32 8	S 269	62 8
Earthed .. ..	10/15		S 278	34 8	S 279	64 8

Pattern	Amps.	Finish	Cat. No.	Price per doz.
D.P. Single Base ..	15	P.B. on Cream	S 918	s. 59 d. 4

2  $\frac{1}{8}$ -in. base

**Flush Type.**

2  $\frac{1}{8}$ -in. fixing centres.

Pattern	Amps.	Finish	ONE-WAY		TWO-WAY	
			Cat. No.	Price per doz. (including rings)	Cat. No.	Price per doz. (including rings)
Standard .. ..	10/15	P.B.	S 271	31 4	S 272	61 4
Earthed .. ..	10/15		S 381	33 4	S 382	63 4

Pattern	Amps.	Finish	Cat. No.	Price per dozen (including rings)
D.P. Single Base ..	15	P.B.	S 921	s. 64 d. 8

### EXTRAS.

Finish	Extra Price per dozen					
	Surface and Semi-recessed		Flush			
			Dolly & Bridge		Ring	
B.B. .. ..	s. 2	d. 0	s. 1	d. 4	s. 1	d. 8
A.B., G.C., F.B., O.C., A.C., R.B.C., C.B.	3	4	2	4	1	0
N.P. .. ..	4	8	3	4	1	4
O.S., A.S. .. ..	11	4	6	8	2	4
Chromium Plated .. ..	18	0	8	0	4	0

# S.E.C.

## "LANDOR SENIOR" SWITCHES

(Patented)

**RAPID MAKE      RAPID BREAK**

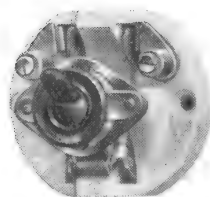
**10/15 Amp.      250 Volt.**



**S 295**



**S 298**



**S 321**

### ALL-INSULATED BAKELITE COVERS AND DOLLIES.

#### Surface Type.

Pattern	Amps.	Finish		ONE-WAY		TWO-WAY	
		Cover	Base	Cat. No.	Price per doz.	Cat. No.	Price per doz.
Standard ..	10/15	Brown	Cream	S 295	s.    d.	S 296	s.    d.
Fixed 2-screw..					32    0		62    0
cover ..							

Pattern	Amps.	Finish		Cat. No.	Price per dozen	
		Cover	Base		s.    d.	
D.P. Single Base	15	Brown	Cream	*S 935	58	8

#### Semi-recessed Type.

Pattern	Amps.	Finish		ONE-WAY		TWO-WAY	
		Cover	Base	Cat. No.	Price per doz.	Cat. No.	Price per doz.
Standard ..	10/15	Brown	Cream	S 298	34    8	S 299	64    8

Pattern	Amps.	Finish		Cat. No.	Price per dozen	
		Cover	Base		s.    d.	
D.P. Single Base	15	Brown	Cream	*S 938	61	4

#### Flush Type.

Pattern	Amps.	Finish	ONE-WAY		TWO-WAY	
			Cat. No.	Price per doz. (including rings)	Cat. No.	Price per doz. (including rings)
Standard ..	10/15	Brown	S 321	34    4	S 322	64    4

Pattern	Amps.	Finish	Cat. No.	Price per dozen (including rings)	
				s.    d.	
D.P. Single Base	15	Brown	S 941	67	8

#### EXTRAS.

Finish	Extra Price per dozen			
	Surface and Semi-recessed		Flush	
	s.    d.		Dolly    Ring	
Black or Brown Bases (where available) ..	1    4		s.    d.	s.    d.
Cream Covers and Dollies ..	4    0		—    —	—    —
Cream Dollies and Rings ..	—		2    8	2    4

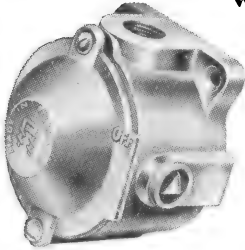
\*Not available with Black Bases.

**S.E.C.**

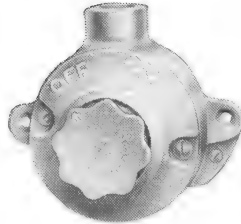
# "LANDOR" SWITCHES

(Patent Nos. 312854, 314146, 353646, 354935, 364121, 413088, 422007).

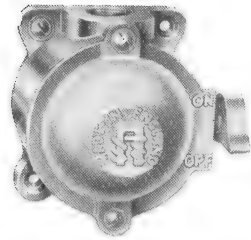
## RAPID MAKE RAPID BREAK WATERTIGHT PATTERNS



**S 518**  
Side handle, detachable



**S 615**  
Front handle



**S 516**  
Side handle

### 5/8 AMP. FIXED HANDLE PATTERN.

Switch Box	Tapping	Finish	Side Operated		Front Operated	
			Cat. No.	Price each.	Cat. No.	Price each.
1 way	$\frac{1}{8}$ " gas } $\frac{1}{8}$ " E.T. }	Silver-lac	S 516	s. d. 5 0	S 615	s. d. 5 0
1 way	$\frac{1}{8}$ " gas } $\frac{1}{8}$ " E.T. }	Galv.		5 4		5 4
2 way	$\frac{1}{8}$ " gas } $\frac{1}{8}$ " E.T. }	Silver-lac	S 516A	5 4	S 615A	5 4
2 way	$\frac{1}{8}$ " gas } $\frac{1}{8}$ " E.T. }	Silver-lac	S 517	5 8	S 616	5 8

### 5/8 AMP. DETACHABLE KEY PATTERN.

Switch Box	Tapping	Finish	Side Operated		Front Operated.	
			Cat. No.	Price each	Cat. No.	Price each
1 way	$\frac{1}{8}$ " gas } $\frac{1}{8}$ " E.T. }	Silver-lac	S 518	s. d. 7 8	S 605	s. d. 7 0
1 way	$\frac{1}{8}$ " gas } $\frac{1}{8}$ " E.T. }	Silver-lac	S 518A	8 0		7 4
2 way	$\frac{1}{8}$ " gas } $\frac{1}{8}$ " E.T. }	Silver-lac	S 519	8 4	S 606	7 8

Detachable Key for above, S 521 . . . 1s. 4d. each  
**10/15 AMP. FIXED HANDLE PATTERN** (front operated)

Switch Box	Tapping	Finish	Cat. No.	Price each
1 way	$\frac{1}{8}$ " gas } $\frac{1}{8}$ " E.T. }	Silver-lac	S 617	s. d. 7 8
1 way	ditto	ditto		8 0

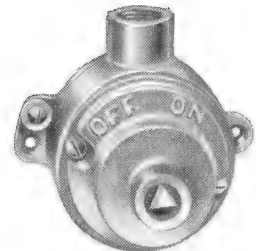
Any of the above can be supplied galvanised at 15% extra except where priced.

Double Pole (Single Base) Switches can be fitted if required. 5/8 Amp. 1s. 10d. each, 10/15 Amp. 2s. 10d. each extra.

### STREET LIGHTING SWITCHFUSE 10 AMP. D.P. DOUBLE BREAK.

Cat. No.	Description	Price each
S 648	Watertight Ironclad D.P. Double Break Switch with fuses and interlocking operating handle, tapped $\frac{3}{8}$ " gas	s. d. 16 0

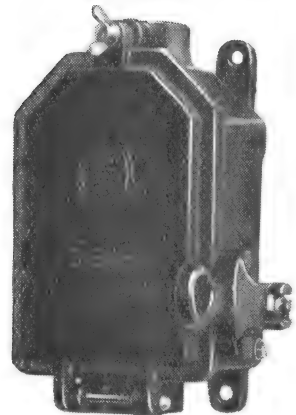
**Pole Clamps** for above, Cat. No. S 652,  
4" 7/8; 5" 8/4; 6" 9/-; 7" 9/8; 8" 10/4 per set.



**S 605**  
Front handle, detachable



**S 521** Detachable key



**S 648**

# S.E.C.

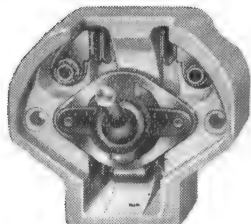
## "LANDOR" SWITCHES

### RAPID MAKE

### RAPID BREAK

(Patent Nos. 312854, 314146, 353646, 354935, 364121, 413088, 422007).

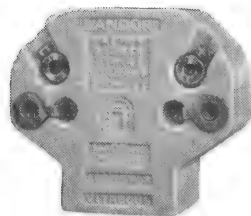
### FOOT OPERATED RADIATOR PATTERN



As used on MAGNET and other fires.  
With earth straps to fixing screw holes.

#### PORCELAIN TYPE.

Mounted in English vitreous porcelain enclosed base.

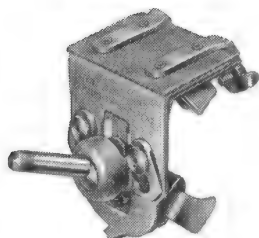


**S 270**  
Fixing centres  $2\frac{1}{8}$  in.

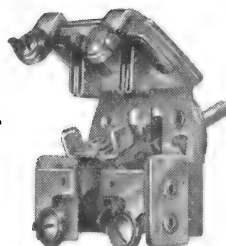
**15 Amp. 250 Volt.**

**S 270**  
Back view

Finish	Single Pole				Double Pole			
	Cat. No.	Price per doz.			Cat. No.	Price per doz.		
		£	s.	d.		£	s.	d.
Polished Brass .. ..	S 270	1	5	4	S 280	1	14	4
Oxidized Copper .. ..		1	7	4		1	16	4
Oxidized Silver .. ..		1	11	4		2	0	4
Chromium Plated .. ..		1	15	4		2	4	4



#### PANEL SKELETON TYPE.



**S 277** Single Pole  
Diam. of dolly boss  $\frac{5}{16}$  in.

**5/8 Amp. 250 Volt.**

**S 287** Double Pole  
Fixing centres  $1\frac{1}{8}$  in.

Finish	Single Pole				Double Pole			
	Cat. No.	Price per doz.			Cat. No.	Price per doz.		
		£	s.	d.		£	s.	d.
Polished Brass .. ..	S 267		15	8	S 287	1	8	0
Oxidized Copper .. ..			16	8		1	9	0
Nickel-plated .. ..			16	8		1	9	0
Oxidized Silver .. ..			18	0		1	10	4
Chromium Plated .. ..		1	1	4		1	13	8

Diam. of dolly boss  $\frac{5}{16}$  in.

**15 Amp. 250 Volt.**

Fixing centres  $1\frac{1}{8}$  in.

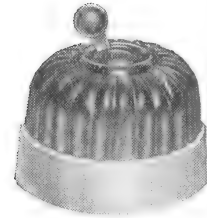
Finish	Single Pole				Double Pole			
	Cat. No.	Price per doz.			Cat. No.	Price per doz.		
		£	s.	d.		£	s.	d.
Polished Brass .. ..	S 277	1	2	0	S 289	1	17	0
Oxidized Copper .. ..		1	4	4		1	19	4
Nickel-plated .. ..		1	4	4		1	19	4
Oxidized Silver .. ..		1	8	0		2	3	0
Chromium Plated .. ..		1	8	8		2	3	8

These switches can be supplied at short notice.

# SPECIAL SWITCHES

## "QUADRANT" SWITCHES. Heavy Duty Type.

Cat. No.	Description	Price per doz.	
S 420	{ 5 amp. single pole, polished brass. Fluted cover. Cream Porcelain base $2\frac{1}{8}$ ins diam.	s.	d.
		36	0



S 420

## TIME LAG SWITCHES.

Cat. No.	Description	Price each	
S 478	{ Brown bakelite cover and base, fitted with delayed action quick break movement, adjustable to open circuit within reasonable periods. 2-amp. A.C. 1-amp. D.C.	s.	d.
		12	0

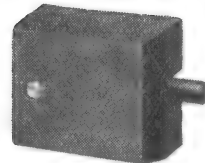


S 478

**Special Recessed Teak Blocks**, for mounting above, 6/- dozen.

## DOOR SWITCHES. Consecutive Action Patterns. Rapid Make. Rapid Break.

Cat. No.	Operation	Price each	
S 1674	{ Door open, circuit broken Door shut, circuit closed	s.	d.
S 1675	{ Door shut, circuit broken Door open, circuit closed	4	0
		4	0

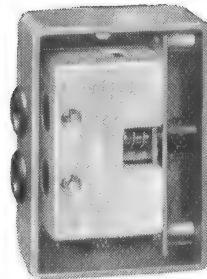


S 1674

## Bolt Pattern.

Cat. No.	Operation	Price each	
S 577	{ Door bolted, circuit closed Door unbolted, circuit broken	s.	d.
		5	8

**Brass Bolt** for above, price 2/- each



S 577 Back view

# S.E.C.

## SUSPENSION SWITCHES



**S 585**

### PEAR TYPE.

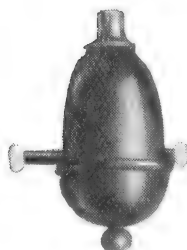
Cat. No.	Description	Price per doz.	
<b>S 585</b>	One or two-way switching,	s.	d.
	3-amp. one-way; 1-amp. two-way :		
	Brown bakelite	<b>13</b>	<b>4</b>
	Cream bakelite	<b>20</b>	<b>0</b>



**S 580**

### THROUGH CORD TYPE.

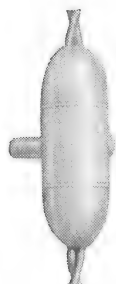
Cat. No.	Description	Price per doz.	
<b>S 580</b>	Through Cord Type (3-amp.) :	s.	d.
	Brown bakelite .. .. .	<b>24</b>	<b>0</b>



**S 582**

### HARDWOOD "ACORN" TYPE.

Cat. No.	Description	Price per doz.	
<b>S 582</b>	One or two-way switching,	s.	d.
	3-amp. one-way; 1-amp. two-way :		
	Polished .. .. .	<b>22</b>	<b>0</b>
	White enamelled	<b>24</b>	<b>0</b>



**S 583**



**S 589**

### "MIDGET" TYPE.

Cat. No.	Description	Price per doz.	
		s.	d.
<b>S 589</b>	Pendant Type .. .. .	<b>20</b>	<b>0</b>
<b>S 583</b>	Through Cord Type .. .. .	<b>20</b>	<b>0</b>

"Midget" switches are stocked in eight Colours :—  
White, Black, Silver, Amber, Blue, Green, Red,  
Old Gold.



## ROTARY SNAP SWITCHES

"GENALEX"

250 Volt.

### STANDARD PATTERN.

Black bakelite covers, wing type composition handles, indicating dials, and cream English vitreous porcelain bases.

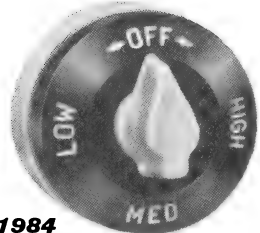


S 1570

Cat. No.	Description	Amps.	Base diam.	Fixing Centres	Price each	
			ins.	ins.	s.	d.
S 1510	Single pole, "On-Off"	5	2 $\frac{3}{16}$	1 $\frac{1}{2}$	3	7
S 1516		10	2 $\frac{1}{2}$	1 $\frac{1}{2}$	5	1
S 1522		20	3 $\frac{1}{16}$	2 $\frac{1}{16}$	6	4
S 1526		30	3 $\frac{1}{2}$	2 $\frac{7}{16}$	10	3
S 1562	Double pole, "On-Off"	5	2 $\frac{1}{2}$	1 $\frac{7}{16}$	4	3
S 1570		10	2 $\frac{1}{2}$	1 $\frac{1}{2}$	5	1
S 1578		20	3 $\frac{1}{16}$	2 $\frac{5}{16}$	9	6
S 1580		30	3 $\frac{1}{2}$	2 $\frac{7}{16}$	12	0

### RECIPROCATING HEATER PATTERN.

Black bakelite covers, with engraved white indications, white porcelain pointer handles, and cream English vitreous porcelain bases.



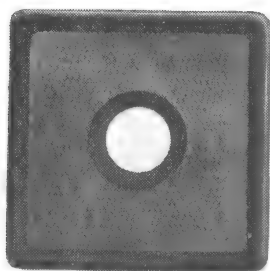
S 1984

### Single Pole Series Parallel.

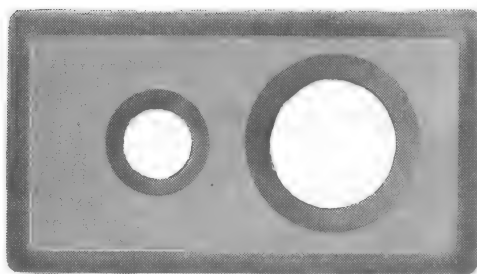
Cat. No.	Description	Amps.	Base diam.	Fixing Centres	Price each	
			ins.	ins.	s.	d.
S 1982	With covers engraved "High," "Med.," "Low," "Off"	5	2 $\frac{3}{16}$	1 $\frac{1}{2}$	5	8
S 1983		7 $\frac{1}{2}$	2 $\frac{1}{2}$	1 $\frac{1}{2}$	6	8
S 1984		10	2 $\frac{3}{16}$	1 $\frac{1}{2}$	7	0
S 1985		15	3	2 $\frac{1}{8}$	8	4
S 1986		20	3	2 $\frac{1}{8}$	11	8
S 1987		25	3 $\frac{5}{16}$	2 $\frac{3}{16}$	12	0
S 1988		30	3 $\frac{1}{2}$	2 $\frac{1}{2}$	14	0
S 1989		35	4	2 $\frac{3}{4}$	16	0
Double Pole "On" and "Off."						
S 1992	With covers engraved "On," "Off"	5	2 $\frac{3}{16}$	1 $\frac{1}{2}$	5	8
S 1993		7 $\frac{1}{2}$	2 $\frac{1}{2}$	1 $\frac{1}{2}$	6	8
S 1994		10	2 $\frac{3}{16}$	1 $\frac{1}{2}$	7	0
S 1995		15	3	2 $\frac{1}{8}$	8	4
S 1996		20	3	2 $\frac{1}{8}$	11	8
S 1997		25	3 $\frac{5}{16}$	2 $\frac{3}{16}$	12	0
S 1998		30	3 $\frac{1}{2}$	2 $\frac{1}{2}$	14	0
S 1999		35	4	2 $\frac{3}{4}$	16	0
Double Pole Series Parallel.						
S 2024	With covers engraved "High," "Med.," "Low," "Off"	10	2 $\frac{13}{16}$	1 $\frac{3}{4}$	8	4
S 2025		15	3	2 $\frac{1}{8}$	9	8
S 2026		20	3	2 $\frac{1}{8}$	12	8
S 2027		25	3 $\frac{5}{16}$	2 $\frac{3}{16}$	13	8
S 2028		30	3 $\frac{1}{2}$	2 $\frac{1}{2}$	16	0
S 2029		35	4	2 $\frac{3}{4}$	19	0

# S.E.C.

## BAKELITE SWITCH PLATES



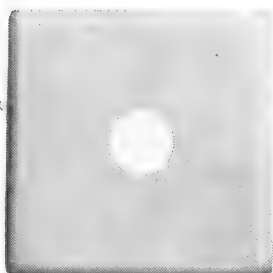
**S 541**



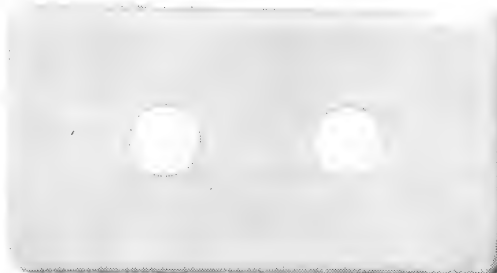
**S 542A.** Suitable for one switch and one 5-amps B.S. gauge two-pin socket.

### 5 Amp. Size. Matt Surface. 2-in. Centres.

Cat. No.	Ways	Size ins.	Price per dozen*		
			†Brown, Black or Oak		
			£	s.	d.
<b>S 541</b>	1 switch .. .. .	$3\frac{1}{4} \times 3\frac{1}{4}$		<b>10</b>	<b>0</b>
<b>S 541A</b>	1 socket outlet .. .. .	$3\frac{1}{4} \times 3\frac{1}{4}$		<b>10</b>	<b>0</b>
<b>S 542</b>	2 switches .. .. .	$5\frac{1}{2} \times 3$		<b>16</b>	<b>0</b>
<b>S 542A</b>	1 switch, 1 socket outlet ..	$5\frac{1}{2} \times 3$		<b>16</b>	<b>0</b>
<b>S 543</b>	3 switches .. .. .	$7\frac{1}{2} \times 3$	<b>1</b>	<b>0</b>	<b>0</b>
<b>S 544</b>	4 switches .. .. .	$5\frac{1}{2} \times 5\frac{1}{2}$	<b>1</b>	<b>8</b>	<b>0</b>



**S 531**



**S 532**

### 5 Amp. size. Plain Polished Surface. 2-in. Centres.

Cat. No.	Ways	Size ins.	Price per dozen*					
			†Brown, Black or Oak			†Cream		
			£	s.	d.	£	s.	d.
<b>S 531</b>	1 switch .. .. .	$3\frac{1}{4} \times 3\frac{1}{4}$		<b>10</b>	<b>0</b>		<b>13</b>	<b>4</b>
<b>S 531A</b>	1 socket outlet .. .. .	$3\frac{1}{4} \times 3\frac{1}{4}$		<b>10</b>	<b>0</b>		<b>13</b>	<b>4</b>
<b>S 532</b>	2 switches .. .. .	$5\frac{1}{2} \times 3$		<b>16</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>
<b>S 532A</b>	1 switch, 1 socket outlet	$5\frac{1}{2} \times 3$		<b>16</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>
<b>S 533</b>	3 switches .. .. .	$7\frac{1}{2} \times 3$	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>5</b>	<b>0</b>
<b>S 534</b>	4 switches .. .. .	$5\frac{1}{2} \times 5\frac{1}{2}$	<b>1</b>	<b>8</b>	<b>0</b>	<b>1</b>	<b>16</b>	<b>0</b>

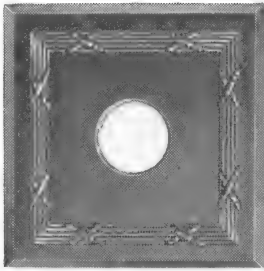
### 15 Amp. Size. Plain Polished Surface. 2½-in. Centres.

Cat. No.	Ways	Size ins.	Price per dozen*					
			†Brown, Black or Oak			†Cream		
			£	s.	d.	£	s.	d.
<b>S 551</b>	1 switch .. .. .	$4 \times 4$	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>5</b>	<b>0</b>
<b>S 551A</b>	1 socket outlet .. .. .	$4 \times 4$	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>5</b>	<b>0</b>
<b>S 552</b>	2 switches .. .. .	$6\frac{1}{2} \times 3\frac{3}{4}$	<b>1</b>	<b>16</b>	<b>0</b>	<b>2</b>	<b>4</b>	<b>0</b>
<b>S 552A</b>	1 switch, 1 socket outlet	$6\frac{1}{2} \times 3\frac{3}{4}$	<b>1</b>	<b>16</b>	<b>0</b>	<b>2</b>	<b>4</b>	<b>0</b>

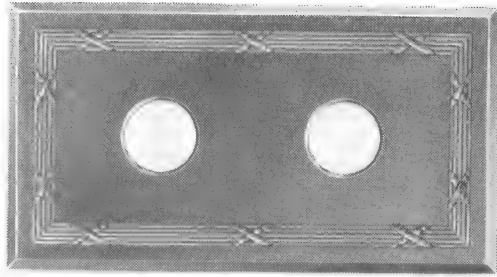
\* Prices do not include Switches or Fixing Rings.

† Brown supplied unless otherwise specified.

# **BAKELITE SWITCH PLATES**



**S 421**



**S 422**

**5 Amp. Size. Ribbon and Reed Decoration. 2-in. Centres.**

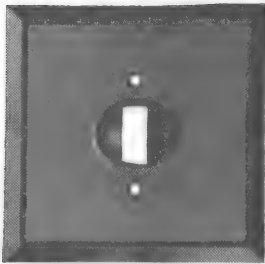
Cat. No.	Ways	Size	Price per dozen*	
			Brown	
<b>S 421</b>	1 switch .. .. .	ins. 3 × 3	s. <b>4</b>	d. <b>0</b>
<b>S 422</b>	2 switches .. .. .	5 3/8 × 3	<b>5</b>	<b>4</b>

**\* Prices do not include Switches or Fixing Rings.**

*For Metal Switch-plates see pages 664-666.*

## **"NIPPER" SWITCH AND PLATE ASSEMBLIES**

**BROWN BAKELITE.**



**S 41**



**S 45**  
One-way



**S 46**  
Two-way.

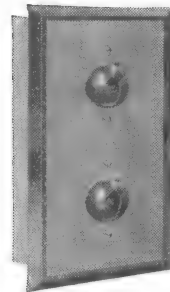
Cat. No.	Comprising			Price per dozen sets (Fixing screws extra)	
	Plates	Boxes	Switches	s.	d.
<b>S 61</b>	1 Gang <b>S 41</b>	<b>S 81</b>	1-way <b>S 45</b> ..	<b>16</b>	<b>4</b>
<b>S 71</b>	Ditto	<b>S 81</b>	2-way <b>S 46</b> ..	<b>23</b>	<b>0</b>
<b>S 62</b>	2 Gang <b>S 42</b>	<b>S 82</b>	2—1-way <b>S 45</b>	<b>30</b>	<b>0</b>
<b>S 72</b>	2 Gang <b>S 42</b>	<b>S 82</b>	{ 1—1-way <b>S 45</b> 1—2-way <b>S 46</b> }	<b>36</b>	<b>8</b>

**BROWN BAKELITE PLATES ONLY**

Cat. No.	Description	Price per doz.
<b>S 41</b>	1 Gang 3" × 3" ..	s. <b>4</b> d. <b>0</b>
<b>S 42</b>	2 Gang 5 1/2" × 3" .. (vertical mounting)	<b>6</b> <b>4</b>

**HARDWOOD BOXES ONLY**

Cat. No.	Size (external)	Price per doz.
<b>S 81</b>	2 3/8" × 2 3/8" × 1 11/16"	s. <b>2</b> d. <b>0</b>
<b>S 82</b>	4 1/2" × 2 3/8" × 1 11/16"	<b>3</b> <b>0</b>



**S 72**

*For Separate Switches see page 431.*

# S.E.C.

## SWITCH SUNDRIES

### FIXING RINGS FOR FLUSH SWITCHES



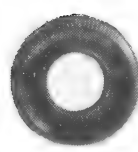
S 470



S 482



S 487



S 474

#### Brass

Cat. No.	Description	Price per dozen.											
		P.B.		B.B.		O.C., etc.		N.P.		O.S.		C.P.	
		s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
S 470	5-amp. Standard pattern	1	4	1	8	2	0	2	4	2	8	3	4
S 471	Heavy L.C.C. pattern ..	3	4	3	8	—	—	—	—	—	—	—	—
S 481	10/15-amp. Standard pattern .. ..	2	0	2	8	3	0	3	4	4	4	6	0
S 482	5-amp. Flat pattern for thin stamped plates ..	2	0	2	4	2	6	2	8	3	0	4	0
S 487	15-amp. ditto ..	2	4	—	—	—	—	—	—	—	—	—	—

#### Bakelite

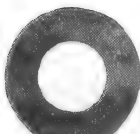
Cat. No.	Description	Price per dozen			
		Brown, Black or Oak		Cream	
		s.	d.	s.	d.
S 474	5-amp. Standard pattern ..	2	0	3	0
S 486	10/15-amp. Standard pattern ..	5	4	7	8

### FIXING RINGS FOR FLUSH SOCKET OUTLETS

#### Brass



S 491



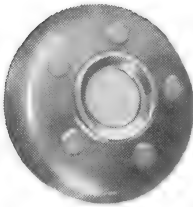
S 494

Cat. No.	Description	Price per dozen.									
		P.B.		B.B.		O.C., etc.		N.P.		O.S.	
S 488	2-amp., for S758 socket outlet ..	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
S 489	5-amp., for thin plates..	4	8	5	8	6	8	7	0	10	4
S 490	5-amp., for S773 socket outlet ..	7	8	8	8	9	8	10	0	13	4
S 493	15-amp., for S789 socket outlet ..	7	8	8	8	9	8	10	0	13	4
		10	8	12	0	13	8	14	4	22	0

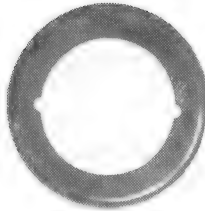
#### Bakelite

Cat. No.	Description	Price per dozen	
		s.	d.
S 494	2-amp., Brown Ivoride for S 759 with S 531A or S 552 A plates ..	7	8
S 491	5-amp., Brown, Black or Oak, for S 715/7 socket outlets ..	7	8
S 492	5-amp., Cream Ivoride, for S 718 socket outlet ..	13	4
S 495	15-amp., Brown, Black or Oak, for S 828/9 socket outlets ..	13	4
	15-amp., CREAM, for S 825 ..	16	8

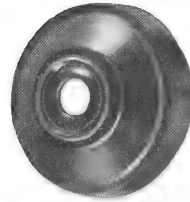
## SWITCH SUNDRIES



**S 320**



**S 317**



**S 360**

### BAKELITE FLANGES

For bakelite semi-recessed switches, backplate lampholders and ceiling roses.

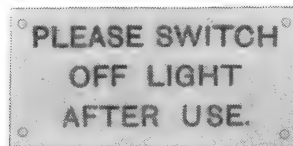
Cat. No.	Finish	Diameter		Price per doz.	
		Internal	External	s.	d.
		ins.	ins.		
<b>S 317</b>	{ Brown, Black or Oak .. .. }	$2\frac{1}{16}$	$3\frac{1}{8}$	<b>2</b>	<b>8</b>
	{ Cream .. .. }			<b>4</b>	<b>0</b>
<b>S 318</b>	{ Brown .. .. }	$1\frac{7}{8}$	$2\frac{3}{4}$	<b>2</b>	<b>8</b>
	{ Cream .. .. }			<b>4</b>	<b>0</b>

### SWITCH COVERS

Cat. No.	Description	Price per doz.	
		s.	d.
<b>S 370</b>	P.B. for "Slick" or "Landor" switches .. ..	<b>2</b>	<b>4</b>
<b>S 320</b>	Ditto, luminous type .. ..	<b>18</b>	<b>0</b>
<b>S 211</b>	Bakelite for "Landor Junior" switches .. ..	<b>3</b>	<b>4</b>
	.. Brown	<b>7</b>	<b>0</b>
	.. Cream	<b>3</b>	<b>0</b>
<b>S 360</b>	Bakelite to replace existing Brass covers .. Brown	<b>3</b>	<b>0</b>
<b>S 362</b>	Bakelite for 5-amp. "Slick" or "Landor" switches, with bakelite thread .. ..	<b>3</b>	<b>0</b>
	.. Brown	<b>3</b>	<b>0</b>
<b>S 364</b>	Ditto ditto ditto with metal-threaded insert .. ..	<b>3</b>	<b>4</b>
	.. Brown	<b>6</b>	<b>0</b>
	.. Cream	<b>3</b>	<b>4</b>
<b>S 310</b>	Roanoid covers for 5-amp. switches, in 20 fancy colours .. ..	<b>8</b>	<b>8</b>



**S 452**



### COUPLING BARS

**S 241**

Cat. No.	Description	Price per doz.	
		s.	d.
<b>S 452</b>	For two 5-amp. switches having club-shaped dollies ..	<b>6</b>	<b>0</b>
<b>S 453</b>	For two 10/15-amp. switches .. ..	<b>7</b>	<b>0</b>

### IVORINE LABELS

Cat. No.	Description.	Price per doz.	
		s.	d.
<b>S 241</b>	2" x 1", with $\frac{5}{32}$ " block letters, "PLEASE SWITCH OFF LIGHT AFTER USE"	<b>4</b>	<b>4</b>

Any size and pattern with appropriate wording can be supplied at short notice. Prices quoted on receipt of detail.

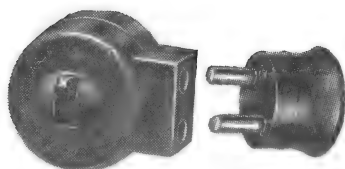
For Wood Switch Blocks and Boxes see pages 667 and 669.

# S.&C.

## SWITCH PLUGS

### NON-INTERLOCKING

**TWO-PIN. SINGLE POLE.**



**S 427**

**"NIPPER" ALL-INSULATED.**

**3/5-AMP.**

Type	Finish	Cat. No.	Price per doz. (including plugs)	
Side entry	Brown on Brown	S 427	s. 24	d. 8



**S 435**

**"LANDOR" BRASS COVERED.**

B.S. Gauge

Type	Finish		5-AMP.		15-AMP.	
	Cover	Base	Cat. No.	Price per doz. (includ. plugs)*	Cat. No.	Price per doz. (includ. plugs)*
Bottom entry	P.B.	Cream	S 433	s. 31 d. 0	S 434	s. 54 d. 8
	P.B.	Black		s. 31 d. 8		s. 56 d. 0
Face entry	P.B.	Cream	S 463	s. 31 d. 0	S 464	s. 54 d. 8

### Extras.

Finish	Extra Price per doz.	
	5-amp.	15-amp.
Black Bronze .. .. .	s. 1 d. 0	s. 2 d. 0
Antique Brass, Oxidized Copper, or Real Bronze Colour .. .. .	s. 2 d. 4	s. 4 d. 8
Oxidized Silver .. .. .	s. 6 d. 8	s. 10 d. 4



**"LANDOR" ALL INSULATED.**

B.S. Gauge

Type	Finish.		5-AMP.		15-AMP.	
	Cover	Base	Cat. No.	Price per doz. (includ. plugs)*	Cat. No.	Price per doz. (includ. plugs)*
Bottom entry	Brown	Cream	S 435	s. 31 d. 8	S 436	s. 53 d. 4
	Brown	Black		s. 32 d. 4		s. 54 d. 8
	Brown	Brown	S 438	s. 32 d. 4	S 430	s. 54 d. 8
	Cream	Cream		s. 38 d. 4		s. 64 d. 8
Face entry	Brown	Cream	S 465	s. 31 d. 8	S 466	s. 53 d. 4
	Brown	Brown		s. 32 d. 4		s. 54 d. 8
	Cream	Cream	S 467	s. 38 d. 4	S 460	s. 64 d. 8



**S 465**

**\*Handshield Plugs** can be substituted (on face entry patterns only) at 5-amp., 4d. each ; 15 amp., 6d. each extra.

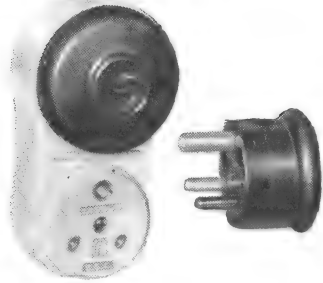
# **SWITCH PLUGS** **NON-INTERLOCKING** **THREE-PIN**

**“LANDOR” B.S. GAUGE ALL-INSULATED.**

Type	Switch	Finish		5-AMP.		15-AMP.	
		Cover	Base	Cat. No.	Price per doz.	Cat. No.	Price per doz.
Face entry	D.P.	Brown	Cream	S535	s. d. 56 0	S545	s. d. 84 8
		Brown	Brown		57 0		87 0
Face entry	S.P.	Brown	Cream	S2535	49 4	S2545	76 8
		Brown	Brown		50 4		79 0

**Above prices include Flat Top Plugs.**

**Handshield Plugs** can be substituted at 5-amp., 4d. each ; 15-amp., 6d. each extra.

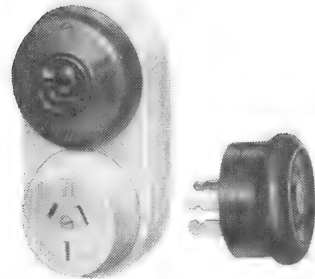


**S 535**

**10-AMP. NON-STANDARD (FLAT PINS)  
 ALL-INSULATED.**

Cat. No.	Type	Switch	Finish	Price per doz.
S 403	Face entry	S.P.	Brown	s. d. 52 0
			on Cream	

**Above prices include Flat Top Plugs.**



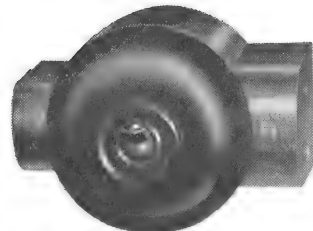
**S 403**

## **DOUBLE PURPOSE TYPE**

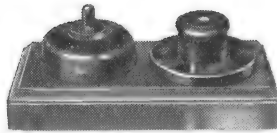
**With one 5-amp. Two-pin Uncontrolled Socket Outlet and one 15-amp. Two-pin Socket Outlet controlled by D.P. Switch.**

Cat. No.	Description	Price per doz.
S 461	Complete with one 15-amp. and one 5-amp. two-pin flat top plugs, Brown bakelite cover on Brown porcelain base ..	s. d.
		78 0

*For Fused Plugs S 650, 5-amp. two-pin, for use with S 461, see page 462.*



**S 461**

**S.E.C.****SWITCH AND PLUG COMBINATIONS****NON-INTERLOCKING****BASE BLOCK TYPES.****S 400****S 500****S 401**

Accessories can be mounted for vertical or horizontal fixing.

**2-amp., 2 Pin, Surface Type.**

Cat. No.	Description	Finish	Price each	
<b>S 400</b> {	"Nipper" Bakelite semi-recessed switch and <b>S 687</b> Bakelite flanged socket outlet and plug mounted on teak base	} Brown	s.	d.
			<b>4</b>	<b>0</b>

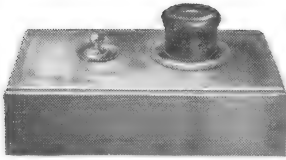
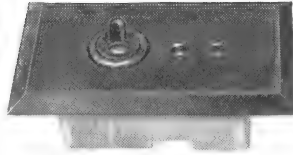
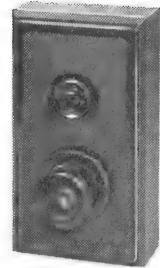
**2-amp., 3 Pin, Surface Type.**

Cat. No.	Description	Finish	Price each	
<b>S 401</b> {	"Nipper" Bakelite semi-recessed switch and <b>S 936</b> Bakelite flanged socket outlet and plug mounted on teak base	} Brown	s.	d.
			<b>4</b>	<b>8</b>

**5-amp., 2 Pin, Surface Type.**

Cat. No.	Description	Finish	Price each	
<b>S 500</b> {	"Landor" bakelite semi-recessed switch and <b>S 770</b> bakelite flush socket outlet, mounted on teak base	} Brown or Black	s.	d.
			<b>5</b>	<b>4</b>



**S.E.C.****SWITCH AND PLUG COMBINATIONS****NON-INTERLOCKING****TWO-PIN SINGLE POLE.****S 501****S 2574**  
(Plug Removed)**S 502**

Accessories can be mounted for vertical or horizontal fixing,  
except **S2574**, which is horizontal.

**5-amp. Surface Type.**

Cat. No.	Description	Finish	Price each	
<b>S 501</b>	"Landor" flush switch, with flush socket outlet, brass plate, dolly and rings, mounted in polished teak frame	Polished Brass	s. 8	d. 0
		B.B.	8	4
		A.B., O.C., R.B.C.	8	8
<b>S 502</b>	As <b>S 501</b> , but with bakelite plate, dolly and rings	Oxidized Silver	9	0
<b>S 507</b>	As <b>S 502</b> , but with Cream bakelite plate and Cream plug	Brown	8	0
		Cream	9	0

**5-amp. Flush Type.**

Cat. No.	Description	Finish	Price each	
<b>S 547</b>	"Landor" flush switch, with <b>S 774</b> socket outlet and plug, with overlapping brass plate. Mounted in pressed steel box.	Polished Brass	s. 8	d. 0
		B.B.	8	4
		A.B., O.C., R.B.C.	8	8
<b>S 548</b>	As <b>S 547</b> , but with bakelite plate, dolly and rings	Oxidized Silver	9	0
<b>S 2574</b>	"Landor" switch movement and 2-pin socket outlet in solid porcelain base, having wiring channels at back, complete with bakelite overlapping plate, teak box and <b>S 690</b> plug	Brown	8	0
		Cream	9	0
		Brown	4	8

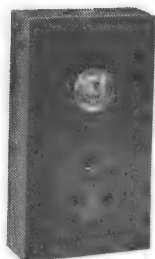
**15-amp. Surface Type.**

Cat. No.	Description	Finish	Price each	
<b>S 503</b>	"Landor Senior" flush switch, with flush socket outlet, brass plate, mounted in polished teak case	Polished Brass	s. 14	d. 8

**Above prices include Flat Top Plugs.**

**Handshield Plugs** can be substituted at 5-amp., 4d. each; 15-amp., 6d. each, extra.

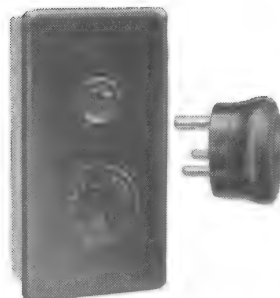
## SWITCH PLUGS VERTICAL INTERLOCKING PATTERNS THREE-PIN SINGLE POLE (Patent No. 391900)



**S 357**  
Surface conduit  
box



**S 367**  
Surface teak box  
bakelite front



**S 379**  
Flush wall box,  
bakelite front

### 5 Amp. Surface Type

Cat. No.	Description	Finish	Price each	
			s.	d.
<b>S 357</b>	{ Mounted in C.I. conduit box, with sheet steel cover As above, but with sheet iron cover (Silverlac)	Black Enamelled	<b>8</b>	<b>4</b>
<b>S 357A</b>		Galvanized	<b>9</b>	<b>0</b>
<b>S 357B</b>	{ As <b>S 357</b> , but with brass cover plate Mounted on teak base, in polished teak frame, with brass cover plate	Polished Brass	<b>9</b>	<b>8</b>
<b>S 358</b>		B.B., O.C., F.B.	<b>10</b>	<b>4</b>
<b>S 367</b>	{ As <b>S 358</b> , but with bakelite plate, dolly and ring	Oxidized Silver	<b>10</b>	<b>8</b>
		Polished Brass	<b>9</b>	<b>8</b>
		B.B., O.C., F.B.	<b>10</b>	<b>4</b>
		Oxidized Silver	<b>10</b>	<b>8</b>
		Brown, Oak or Black	<b>9</b>	<b>8</b>

### 5 Amp. Flush Type

Cat. No.	Description	Finish	Price each	
			s.	d.
<b>S 375</b>	{ Mounted in C.I. conduit box, with overlapping brass plate As <b>S 375</b> , but with pressed steel box, with $\frac{3}{4}$ -in. knockouts	Polished Brass	<b>9</b>	<b>8</b>
<b>S 407</b>		B.B., O.C., F.B.	<b>10</b>	<b>4</b>
<b>S 377</b>	{ As <b>S 375</b> in C.I. box, with bakelite plate, dolly and ring As <b>S 377</b> , but in pressed steel box, with $\frac{3}{4}$ -in. knockouts	Oxidized Silver	<b>10</b>	<b>8</b>
<b>S 408</b>		Polished Brass	<b>9</b>	<b>8</b>
<b>S 378</b>	{ Mounted in hardwood wall box with brass plate As <b>S 378</b> , but with bakelite plate, dolly and ring	B.B., O.C., F.B.	<b>10</b>	<b>4</b>
<b>S 379</b>		Oxidized Silver	<b>10</b>	<b>8</b>
		Brown	<b>9</b>	<b>8</b>
		Polished Brass	<b>9</b>	<b>4</b>
		B.B., O.C., F.B.	<b>10</b>	<b>0</b>
		Oxidized Silver	<b>10</b>	<b>4</b>
		Brown	<b>9</b>	<b>4</b>

**Above prices include Flat Top Plugs**  
**Handshield Plugs** can be substituted at **4d.** each extra.

The above switch plugs can be supplied without interlock if desired at **4d.** less than listed prices.

If supplied non-interlocking, switches and socket outlets can be fitted for either vertical or horizontal mounting.

## SWITCH PLUGS NON-INTERLOCKING



S 2532

S 2603

S 2564

### TWO-PIN Surface Type (Flat Back)

Switch	Amps.	Type	Finish	Cat. No.	Price each	
S.P.	5	All-insulated	Brown on Brown	S 2572	s. 3	d. 9
D.P.	5	"	" "	S 2532	4	3
S.P.	15	"	" "	S 2582	6	4
D.P.	15	"	" "	S 2542	7	4

### Surface Type (Recessed Back)\*

S.P.	5	All-insulated	Brown on Brown	S 2572R	3	9
D.P.	5	"	" "	S 2532R	4	3
S.P.	15	"	" "	S 2582R	6	4
D.P.	15	"	" "	S 2542R	7	4

### THREE-PIN Surface Type (Flat Back)

S.P.	2	All-insulated	Brown on Brown	S 2632	3	8
S.P.	5	"	" "	S 2592	4	11
D.P.	5	"	" "	S 2552	5	5
S.P.	15	"	" "	S 2602	7	8
D.P.	15	"	" "	S 2562	8	6

### Surface Type (Recessed Back)\*

S.P.	5	All-insulated	Brown on Brown	S 2592R	4	11
D.P.	5	"	" "	S 2552R	5	5
S.P.	15	"	" "	S 2602R	7	8
D.P.	15	"	" "	S 2562R	8	6

### Semi-Recessed Type

S.P.	15	All-insulated	Brown on Brown	S 2603	8	8
D.P.	15	"	" "	S 2563	9	8

### Flush Type

With metal front plate, mounted in conduit box.

Tapped  $\frac{3}{4}$  in. E.T. one-way.

S.P.	2	Metal	Florentine Bronze	S 2634	5	8
S.P.	5	"	" "	S 2594	6	9
D.P.	5	"	" "	S 2554	7	0
S.P.	15	"	" "	S 2604	10	0
D.P.	15	"	" "	S 2564	10	8

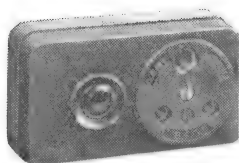
For other Metal Finishes see page 460.

\* For surface wiring systems, the walls of the recess being provided with knock-outs.

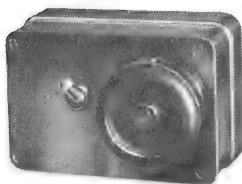
**Above prices include Flat Top Plugs**

**Handshield Plugs** (Two or Three-pin) can be substituted at 5-amp., 4d. each; 15-amp., 6d. each extra.

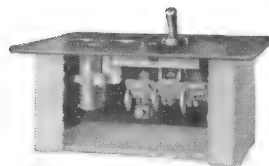
## SWITCH PLUGS INTERLOCKING



S 442



S 2442



S 2444

### THREE-PIN Surface Type (Flat Back)

Switch	Amps.	Type	Finish	Cat. No.	Price each	
S.P.	2	All-insulated	Brown on Brown	S 2652	s.	d.
S.P.	5	"	" "	S 2612	4	8
D.P.	5	"	" "	S 522	6	5
S.P.	15	"	" "	S 2622	6	8
D.P.	15	"	" "	S 442	10	4
D.P.	15	{ Metal front on Bakelite Case	Florentine Bronze	S 2442	10	10
					12	0

### Surface Type (Recessed Back).

For surface wiring systems, the walls of the recess being provided with knock-outs.

Switch	Amps.	Type	Finish	Cat. No.	Price each	
S.P.	5	All-insulated	Brown on Brown	S 2612R	s.	d.
D.P.	5	"	" "	S 522R	6	5
S.P.	15	"	" "	S 2622R	6	8
D.P.	15	"	" "	S 442R	10	4
					10	10

### Semi-Recessed Type.

Switch	Amps.	Type	Finish	Cat. No.	Price each.	
S.P.	15	All-insulated	Brown on Brown	S 2623	s.	d.
D.P.	15	"	" "	S 443	11	6
					12	0

### Flush Type.

With metal front plate, mounted in conduit box.

Switch	Amps.	Type	Finish	Cat. No.	Price each	
S.P.	2	Metal	Florentine Bronze	S 2654	s.	d.
S.P.	5	"	" "	S 2614	6	8
D.P.	5	"	" "	S 524	8	1
S.P.	15	"	" "	S 2624	8	4
D.P.	15	"	" "	S 2444	12	4
					12	10

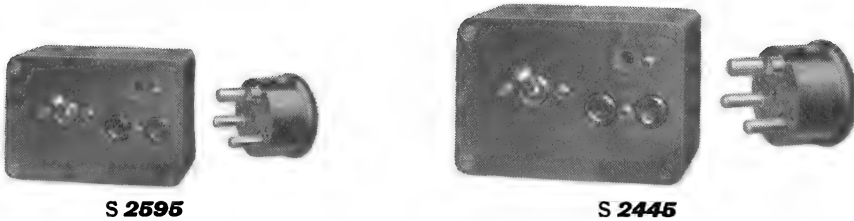
### EXTRAS (Metal Flush Plates).

Finish			Extra Price each			
			5 amp.	15 amp.		
			s.	d.	s.	d.
Polished Brass or Black Bronze	..	..	4		6	
Oxidized Copper	..	..	6		8	
Oxidized Silver	..	..	1	4	2	0
Chromium Plated	..	..	1	8	2	8

Above prices include Flat Top Plugs.

Handshield Plugs can be substituted at 5-amp., 4d. each; 15-amp., 6d. each, extra.

# **SWITCH PLUGS** **SURFACE TYPE CONDUIT BOX PATTERN** **With Metal Front.      Horizontal Mounting.**



## **NON-INTERLOCKING**

Switch	Amps.	Finish	Cat. No.	Price each	
				s.	d.
S.P.	2	Florentine Bronze	S <b>2635</b>	5	8
S.P.	5	" "	S <b>2595</b>	6	9
D.P.	5	" "	S <b>2555</b>	7	0
S.P.	15	" "	S <b>2605</b>	10	0
D.P.	15	" "	S <b>2565</b>	10	8

## **INTERLOCKING**

Switch	Amps.	Finish	Cat. No.	Price each	
				s.	d.
S.P.	2	Florentine Bronze	S <b>2655</b>	6	8
S.P.	5	" "	S <b>2615</b>	8	1
D.P.	5	" "	S <b>525</b>	8	4
S.P.	15	" "	S <b>2625</b>	12	4
D.P.	15	" "	S <b>2445</b>	12	10

*For other Finishes, see page 460.*

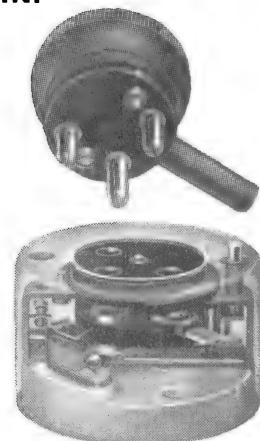
# **AUTOMATIC SWITCH PLUGS** **INTERLOCKING**

*Patent No. 136006.*

## **15 Amp. DOUBLE POLE THREE-PIN.**

Cat. No.	Diameter ins.	Description	Price each		
			£	s.	d.
S <b>838</b>	3½	Surface type, with brown moulded insulated cover, and hardwood flat top plug ..		18	0
S <b>857</b>	4½	Semi-recessed type, in C.I. conduit box, and P.B. front, with plug as above ..	1	8	0
S <b>859</b>	4½	Ditto with insulated spun brass housing, and plug as above ..	1	4	0
S <b>858</b>	5	Weatherproof pattern, surface type, mounted in weatherproof conduit box, with screw-on cover, drilled and tapped one-way ½" E.T., with plug ..	1	6	0

**Spare Flat Top Plugs, 15-amp., three-pin, Cat. No. S 839, price 4s. 0d. each.**



**S 838**

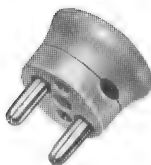
## OUTLET PLUGS TWO-PIN

All Commercial type (Flat top) Plugs made to British Standard Gauges are interchangeable with Handshield types, but to comply with B.S.S. No. 372 and Home Office requirements, Handshield types must be used.

### 2-AMP. STANDARD GAUGE.



**S 678** Brown Bakelite.  
Flat top.  
**8s. 0d. doz.**



**S 678** Cream.  
Flat top.  
**11s. 0d. doz.**



**S 644** Hardwood.  
Handshield British  
Standard.  
**11s. 8d. doz.**

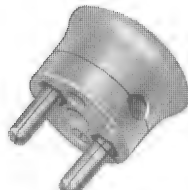
### 5-AMP. STANDARD GAUGE.



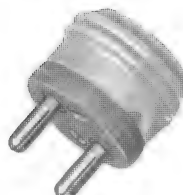
**S 722** Bakelite.  
Top entry, with  
patent ball and  
socket cord grip.  
**4s. 8d. doz.**  
**48s. 0d. gross.**



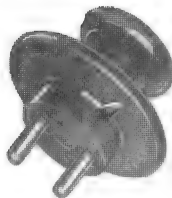
**S 690**  
Brown Bakelite.  
Flat top.  
**7s. 4d. doz.**



**S 690**  
Cream Bakelite.  
Flat top.  
**12s. 0d. doz.**



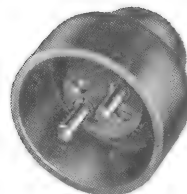
**S 676** Porcelain.  
Flat top.  
**9s. 4d. doz.**



**S 693** Bakelite Hand-  
shield British Standard  
Single entry.  
**11s. 8d. doz.**



**S 793** Bakelite Hand-  
shield British Standard  
Alternative wiring.  
**17s. 4d. doz.**



**S 593** Bakelite  
Shrouded type  
(Patent) for surface  
sockets only.  
**17s. 4d. doz.**

### FUSED TYPE.

Fused 2-pin and 3-pin. plugs. Bakelite moulding provided with fuse contacts.  
To accommodate glass cartridge fuses of 1-amp., 2-amp. or 5-amp. rating.

Please specify amperage when ordering.

(4 fuses included with each 2-pin plug).

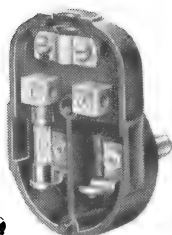
(2 " " " " 3-pin " ).

**S 650** 5-amp., 2-pin D.P. fused **24 0** doz. s. d.

**S 653** 15-amp., 2-pin ditto **30 0** "

**S 914** 5-amp., 3-pin, line pin fused **36 0** "

**S 651** Spare Fuses 1, 2 or 5-amp. **2 8** "



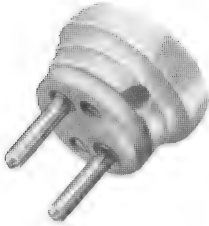
**S 650**

## OUTLET PLUGS

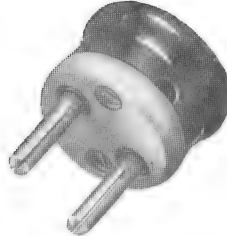
### TWO-PIN

All Commercial type (Flat top) Plugs made to British Standard Gauges are interchangeable with Handshield types, but to comply with B.S.S. No. 372 and Home Office requirements, Handshield types must be used.

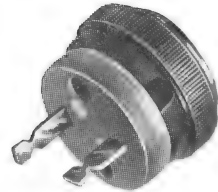
#### 10-AMP. NON-STANDARD.



**S 684** Porcelain  
Flat top.  
**16s. 8d. doz.**

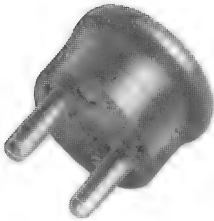


**S 686** Bakelite  
Flat top.  
**19s. 0d. doz.**

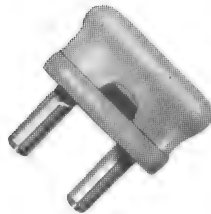


**S 692** Flat top.  
Flat-pin polarity  
or non-reversible  
pattern.  
**12s. 0d. doz.**

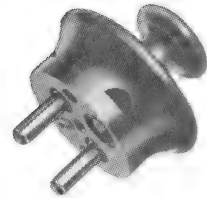
#### 15-AMP. STANDARD GAUGE.



**S 696** Bakelite  
Flat top.  
**12s. 0d. doz.**

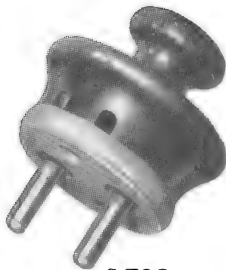


**S 699** Porcelain  
Flat top.  
**13s. 4d. doz.**



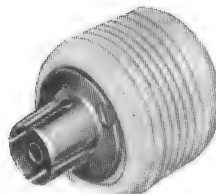
**S 795** Bakelite Hand-  
shield, British Stan-  
dard Alternative  
Wiring.  
**18s. 0d. doz.**

#### TWO-PIN 30 AMP.

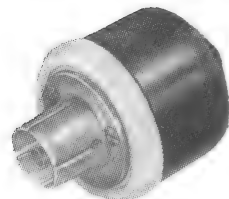


**S 798**  
Hardwood Handshield  
British Standard.  
**4s. 4d. each.**

#### CONCENTRIC 5 AMP.



**S 663A** Cream  
Porcelain.  
**21s. 4d. doz.**



**S 664A** Bakelite-  
covered.  
**24s. 0d. doz.**

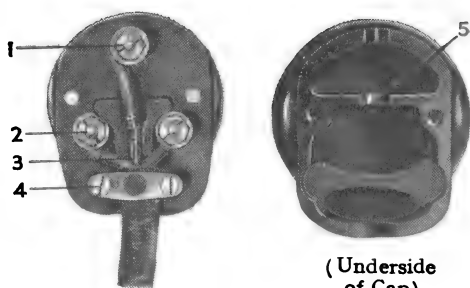
## OUTLET PLUGS THREE-PIN (TWO POLE AND EARTHING PIN).

Manufactured in accordance with British Standard Specification No. 546 and bearing the authorised mark of the British Standards Institution



### SPECIAL FEATURES

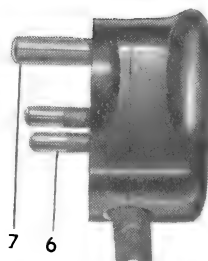
1. Hexagon headed terminal nuts with sawcuts for screwdriver or pliers.
2. Slotted cupped washers for securing ends of conductors.
3. Bridge for securing whipcord in flexible (G.E.C. "Domestaflex" is recommended).
4. Loose adjustable cord-grip fitting into recesses in base and cap, simplifying the positioning of grip on flexible.
5. Insulating barriers between terminals.
6. Partly insulated current carrying pins.
7. Each pin slotted and means adopted to prevent closing beyond the parallel position.



(Underside  
of Cap)



(Top View)



Cat. No.	Amps.	Finish	Price per doz.	
			s.	d.
S <b>2791</b>	2	Brown Bakelite	<b>16</b>	<b>4</b>
S <b>2894</b>	5	" "	<b>18</b>	<b>4</b>
S <b>2896</b>	15	" "	<b>26</b>	<b>0</b>



## OUTLET PLUGS

### THREE-PIN

All Commercial type (Flat top) Plugs made to British Standard Gauges are interchangeable with Handshield types, but to comply with B.S.S. No. 372 and Home Office requirements, Handshield types with visible earth connections must be used.

#### 2 AMP. STANDARD GAUGE



**S 801** Brown Bakelite  
Flat top.  
**13s. 0d. doz.**

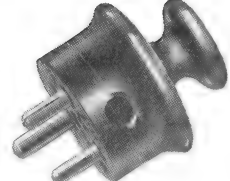


**S 792A** Bakelite  
Handshield.  
British Standard.  
**16s. 4d. doz.**

#### 5 AMP. STANDARD GAUGE



**S 891A** Brown  
Bakelite. Flat top.  
**14s. 4d. doz.**

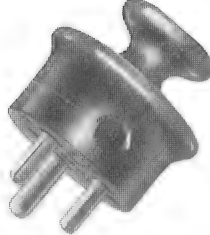


**S 894** Bakelite  
Handshield.  
British Standard.  
**18s. 4d. doz.**

#### 15 AMP. STANDARD GAUGE

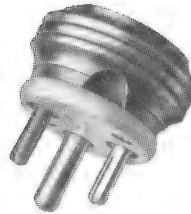


**S 887A** Brown BAKE-  
lite. Flat top.  
**20s. 0d. doz.**



**S 896** Bakelite  
Handshield.  
British Standard.  
**26s. 0d. doz.**

#### 10 AMP. NON-STANDARD



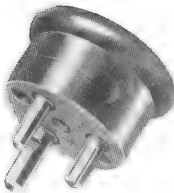
**S 862** Spares for  
S 861 Socket out-  
lets in existing  
installations.  
**20s. 0d. doz.**



**S 662** Spares for  
S 661 Socket out-  
lets, Flat pin  
pattern.  
**14s. 0d. doz.**

### SLOTTED EARTH-PIN TYPES FOR G.E.C. INTERLOCKING SWITCH PLUGS.

#### 5 AMP. STANDARD GAUGE



**S 358A**  
For vertical pattern  
interlocked switch plugs  
Brown Bakelite.  
**14s. 4d. doz.**



**S 345**  
For horizontal pattern  
switch plugs.  
Brown Bakelite.  
**14s. 4d. doz.**

#### 15 AMP. STANDARD GAUGE



**S 451**  
For horizontal pattern  
switch plugs.  
Brown Bakelite.  
**20s. 0d. doz.**

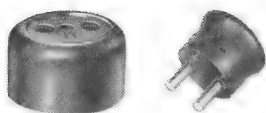
# S.&C.

## SOCKET OUTLETS AND PLUGS

Handshield Patterns comply with B.S.S. No. 372.

2-AMP. TWO-PIN

### SURFACE TYPE



S 677

Cat. No.	Description	Price per dozen	
		s.	d.
S 677	Bakelite covered socket outlet with S 678 bakelite plug, Brown	18	0
S 643	As S 677 but with S 644 hard-wood handshield plug, British Standard.. ..	26	4
		21	4



S 643

### FLANGED TYPE

#### CIRCULAR FLANGES.



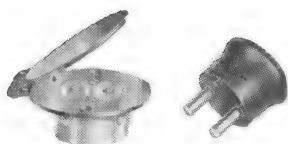
S 745

Cat. No.	Description	Price per dozen	
		s.	d.
S 745	Cream porcelain socket outlet with polished brass* flange and S 678 Cream plug .. ..	25	8
S 680	Socket outlet as above,* with S 678 bakelite plug, Brown	22	8
S 682	Socket outlet as above,* with S 644 hardwood handshield plug, British Standard .. ..	26	0
S 687	Bakelite flanged pattern with S 678 bakelite plug, Brown. To fit 2in. conduit box, 1½in. fixing centres	22	8



S 687

### HINGED FRONT PLATES.



S 681

Cat. No.	Description	Price per dozen	
		s.	d.
S 757	As S 745, but with spring-hinged polished brass front plate* ..	42	0
S 681	As S 680, but with spring-hinged polished brass front plate* ..	39	0
S 659	As S 682 but with spring-hinged polished brass front plate* ..	42	8

\* For other Finishes (supplied at short notice) see page 472  
For Spare Plugs see page 462.

**S.E.C.****SOCKET OUTLETS AND PLUGS****Handshield Patterns comply with B.S.S. No. 372.****5-AMP. TWO-PIN****SURFACE TYPE****B.S. GAUGE.**

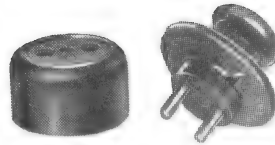
Plug pins and socket outlet tubes are made and spaced strictly to British Standard gauge with fine tolerance. The socket outlets comply with British Standard Specification No. 372, and the flat top plugs supplied are interchangeable with handshield plugs (*see below*). The socket outlet tubes are made solid with the mains terminals and, being self-aligning, a smooth and perfect grip on the pins is ensured; the plug pins and terminals are of solid one-piece construction.

Cat. No.	Description	Price per doz.	
		s.	d.
S <b>689</b>	Bakelite-covered porcelain socket outlet with S <b>690</b> bakelite side entry flat top plug, Brown ..	17	4
S <b>675</b>	Cream porcelain base and cover, with S <b>676</b> cream porcelain side entry flat top plug .. ..	19	4

**S 689****BRITISH STANDARD.**

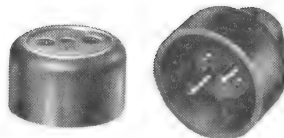
\*A feature of the S **793** plug is the unique arrangement for gripping effectively any size and type of flex normally employed.

Cat. No.	Description	Price per doz.	
		s.	d.
S <b>688</b>	Bakelite-covered porcelain socket outlet with S <b>693</b> bakelite side entry handshield plug, Brown	21	8
S <b>779</b>	Bakelite-covered porcelain socket outlet with S <b>793</b> bakelite alternative entry handshield plug, Brown .. .. . ( <i>See note above</i> )*	27	4

**S 688****S 779****SHROUDED.**

This pattern complies with the requirements of British Standard Specification No. 372, but offers additional protection to the user. The shrouded plug effectively prevents the pins being fouled if the plug is partly withdrawn from the socket outlet.

Cat. No.	Description	Price per doz.	
		s.	d.
S <b>591</b>	Bakelite-covered porcelain socket outlet with S <b>593</b> bakelite side entry shrouded type plug, Brown	27	4

**S 591**

(*British Patent No. 312461, and Colonial Patents*).

*For Spare Plugs see page 462.*

# S.E.C.

## SOCKET OUTLETS AND PLUGS

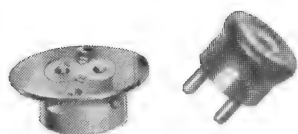
Handsheld Patterns comply with B.S.S. No. 372.

**5-AMP. TWO-PIN**

**FLANGED TYPE**

Fixing holes at 2in. centres for direct fixing to B.S.S. conduit boxes.

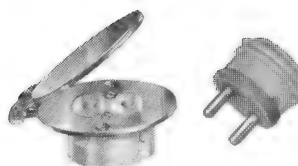
### CIRCULAR BRASS FLANGES. 2½in. Dia.



**S 772**

Cat. No.	Description	Price per doz.	
<b>S 771</b>	Cream porcelain socket outlet with polished brass flange* and <b>S 676</b> Cream porcelain plug ..	s.	d.
<b>S 772</b>	Socket outlet as above* with <b>S 690</b> bakelite flat top plug, Brown .. .. .	<b>26</b>	<b>8</b>
<b>S 732</b>	Socket outlet as above with <b>S 793</b> bakelite handsheld plug with alternative wiring ways, Brown .. .. .	<b>24</b>	<b>8</b>
<b>S 733</b>	Socket outlet as above* with <b>S 693</b> bakelite handsheld plug, single entry, Brown .. .. .	<b>34</b>	<b>8</b>
		<b>29</b>	<b>0</b>

### HINGED BRASS FRONT PLATES. 2½in. Dia.



**S 777**

Cat. No.	Description	Price per doz.	
<b>S 777</b>	As <b>S 771</b> , but spring hinged front plate* .. .. .	s.	d.
<b>S 778</b>	As <b>S 772</b> , but spring hinged front plate* .. .. .	<b>46</b>	<b>8</b>
<b>S 766</b>	As <b>S 732</b> , but spring hinged front plate* .. .. .	<b>44</b>	<b>8</b>
<b>S 775</b>	As <b>S 733</b> , but spring hinged front plate* .. .. .	<b>54</b>	<b>8</b>
		<b>49</b>	<b>0</b>

\* For Other Finishes (supplied at short notice) see page 472.

### CIRCULAR BAKELITE FLANGES. 2½in. Dia.



**S 770**

Cat. No.	Description	Price per doz.	
<b>S 770</b>	Bakelite flanged socket outlet with <b>S 690</b> bakelite flat top plug, Brown or Black† .. .. .	s.	d.
<b>S 790</b>	Socket outlet as above, with <b>S 793</b> bakelite handsheld plug with alternative wiring ways, Brown .. .. .	<b>24</b>	<b>8</b>
<b>S 710</b>	Socket outlet as above, with <b>S 693</b> bakelite handsheld plug, single entry, Brown .. .. .	<b>34</b>	<b>8</b>
		<b>29</b>	<b>0</b>

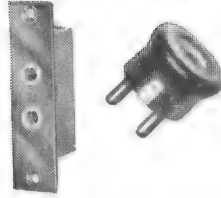
† Brown supplied unless otherwise specified.

For Spare Plugs see page 462.

# **SOCKET OUTLETS AND PLUGS**

**Handshield Patterns comply with B.S.S. No. 372.**

## **5-AMP. TWO-PIN FLANGED TYPE**



**S 749**

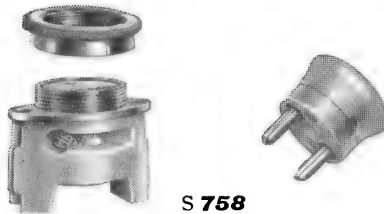
Fixing holes  $2\frac{1}{4}$ in. centre.

### **NARROW OBLONG FRONTS.**

Cat. No.	Description	Price per doz.	
		s.	d.
<b>S 749</b>	Cream porcelain socket outlet with narrow polished brass* plate and <b>S690</b> Brown bakelite flat top plug .. .. .	<b>24</b>	<b>0</b>

\* Extras for other finishes: B.B., **1s. 0d.** doz.; O.C., **2s. 0d.** doz.; O.S., **4s. 0d.** doz.

## **2-AMP. TWO-PIN FIXING RING TYPE**



**S 758**

Fixing holes  $1\frac{1}{4}$ in. centres.

### **FOR FLUSH MOUNTING BOXES.**

Cat. No.	Description	Price per doz.	
		s.	d.
<b>S 758</b>	Cream porcelain socket outlet with brass threaded bridge, brass fixing ring, and <b>S 678</b> Cream plug.. .. .	<b>34</b>	<b>0</b>
<b>S 759</b>	Socket outlet and ring as above with <b>S 678</b> bakelite flat top plug, Brown .. .. .	<b>31</b>	<b>0</b>
<b>S 734</b>	Socket outlet and ring as above with <b>S 644</b> hardwood hand shield plug, British Standard	<b>34</b>	<b>8</b>

*For Spare Plugs see page 462.*

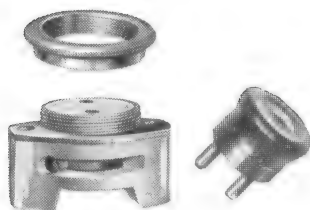
# G.E.C.

## SOCKET OUTLETS AND PLUGS

Handshield types comply with B.S.S. No. 372.

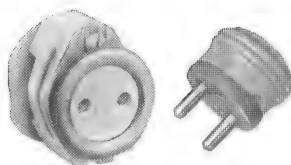
### TWO-PIN FIXING RING TYPE FOR FLUSH MOUNTING IN BOXES

**5 AMP.**



**S 774**  
Fixing holes,  $1\frac{1}{8}$ -in.  
centres.

Cat. No.	Description	Price per dozen	
<b>S 773</b>	Cream porcelain socket outlet with brass threaded bridge, brass fixing ring and <b>S 676</b> Cream porcelain plug .. .. .	s.	d.
<b>S 774</b>	Socket outlet and ring as above with <b>S 690</b> bakelite flat top plug, Brown .. .. .	<b>36</b>	<b>0</b>
<b>S 672</b>	Socket outlet and ring as above with <b>S 793</b> bakelite handshield plug with alternative wiring ways, Brown .. .. .	<b>34</b>	<b>0</b>
<b>S 673</b>	Socket outlet and ring as above with <b>S 693</b> bakelite handshield plug, single entry, Brown .. .. .	<b>44</b>	<b>0</b>
<b>S 715</b>	As <b>S 774</b> , but bakelite fixing ring, Brown .. .. .	<b>38</b>	<b>4</b>
<b>S 716</b>	As <b>S 672</b> , but bakelite fixing ring, Brown .. .. .	<b>34</b>	<b>0</b>
<b>S 717</b>	As <b>S 673</b> , but bakelite fixing ring, Brown .. .. .	<b>44</b>	<b>0</b>
<b>S 718</b>	As <b>S 672</b> , but bakelite fixing ring, Brown .. .. .	<b>38</b>	<b>4</b>
<b>S 718</b>	Socket outlet as above with Cream fixing ring and <b>S 676</b> Cream porcelain plug .. .. .	<b>41</b>	<b>8</b>



**S 4773** (See page 441)

### Flush Socket Outlet with Patented Levelling Device.

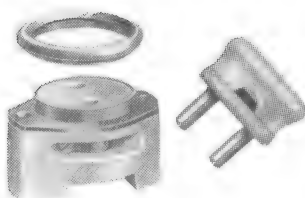
**5 Amp. S 4773**

See page 441.

**15 Amp. S 4828**

See page 442.

**15 AMP.**



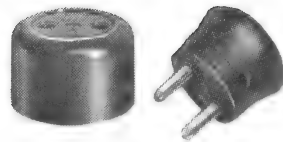
**S 826**  
Fixing holes,  $2\frac{3}{16}$ -in.  
centres.

Cat. No.	Description	Price per dozen	
<b>S 826</b>	Cream porcelain socket outlet with brass threaded bridge, brass fixing ring, and <b>S 699</b> Cream porcelain plug .. .. .	s.	d.
<b>S 827</b>	Socket outlet and ring as above with <b>S 696</b> bakelite flat top plug, Brown .. .. .	<b>52</b>	<b>8</b>
<b>S 789</b>	Socket outlet and ring as above with <b>S 795</b> bakelite handshield plug, with alternative wiring ways, Brown .. .. .	<b>51</b>	<b>4</b>
<b>S 825</b>	As <b>S 826</b> , but bakelite fixing ring, Cream .. .. .	<b>57</b>	<b>4</b>
<b>S 828</b>	As <b>S 827</b> , but bakelite fixing ring, Brown .. .. .	<b>58</b>	<b>8</b>
<b>S 829</b>	As <b>S 789</b> , but bakelite fixing ring, Brown .. .. .	<b>51</b>	<b>4</b>
<b>S 829</b>	As <b>S 789</b> , but bakelite fixing ring, Brown .. .. .	<b>57</b>	<b>4</b>

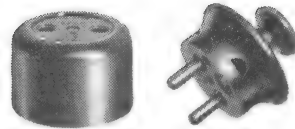
For Spare Plugs see pages 462 and 463. For Spare Fixing Rings see page 452.

**S.E.C.****SOCKET OUTLETS AND PLUGS****Handshield patterns comply with B.S.S. No. 372.****15-AMP. TWO-PIN****SURFACE TYPE****B.S. GAUGE.**

Cat. No.	Description	Price per doz.	
		s.	d.
<b>S 695</b>	Bakelite-covered porcelain socket outlet with <b>S 696</b> bakelite side entry flat top plug, Brown ..	<b>28</b>	<b>0</b>

**S 695****BRITISH STANDARD.***(Patent No. 284009).*

Cat. No.	Description	Price per doz.	
		s.	d.
<b>S 768</b>	Bakelite-covered porcelain socket outlet with <b>S 795</b> bakelite side entry handshield plug with alternative wiring ways, Brown ..	<b>34</b>	<b>0</b>

**S 768****FLANGED TYPE****CIRCULAR FLANGES 2½in. Dia.****Brass and bakelite.**

Cat. No.	Description	Price per doz.	
		s.	d.
<b>S 876</b>	Cream vitreous solid block, porcelain socket outlet with brass flange* and <b>S 696</b> bakelite flat top plug, Brown ..	<b>37</b>	<b>0</b>
<b>S 870</b>	Socket outlet as above* with <b>S 699</b> Cream porcelain plug ..	<b>38</b>	<b>4</b>
<b>S 871</b>	Socket outlet as above* with <b>S 795</b> bakelite handshield plug, Brown ..	<b>43</b>	<b>0</b>
<b>S 822</b>	BROWN BAKELITE socket outlet with <b>S 696</b> flat top plug ..	<b>37</b>	<b>0</b>
<b>S 823</b>	As <b>S 822</b> but with <b>S 795</b> handshield plug ..	<b>43</b>	<b>0</b>

**S 876****Brass Flange.****S 822****Bakelite Flange.***For Spare Plugs see page 463.**\* For Other Finishes (supplied at short notice) see page 472.*

# S.E.C.

## SOCKET OUTLETS AND PLUGS

### SURFACE TYPE

#### 30 Amp. Two-Pin British Standard.



Cat. No.	Description	Price each	
<b>S 796</b>	Hardwood-covered porcelain socket outlet with <b>S 798</b> hardwood side entry handshield plug .. ..	s.	d.
		<b>9</b>	<b>4</b>

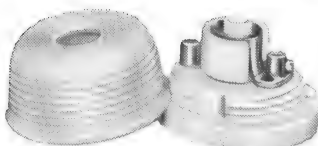


**S 796**



#### POLARITY PATTERNS. 5 Amp. Concentric.

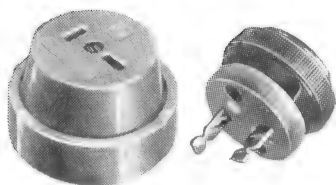
Cat. No.	Description	Price per doz.	
<b>S 663</b>	Cream porcelain socket outlet base with porcelain screw-on cover and <b>S 663A</b> Cream porcelain plug .. ..	s.	d.
		<b>42</b>	<b>8</b>
<b>S 664</b>	Cream porcelain socket outlet with bakelite screw-on cover and <b>S 664A</b> bakelite-covered plug, Brown .. ..		
		<b>48</b>	<b>0</b>



**S 663**

#### 10 Amp. Two-pin (Flat Pin Type).

Cat. No.	Description	Price per doz.	
<b>S 691</b>	Cream porcelain socket outlet with <b>S 692</b> bakelite side entry plug, Brown, with flat non-reversible pins .. ..	s.	d.
		<b>24</b>	<b>8</b>

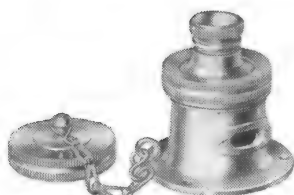


**S 691**

#### "ADMIRALTY" PATTERN.

##### 5 Amp. Two-Pin.

Cat. No.	Description	Price each	
<b>S 697</b>	Watertight socket outlet with lead gland and screw-on cover attached by chain, with <b>S 797</b> plug and clamping ring, as illustrated. Naval brass ..	s.	d.
		<b>10</b>	<b>0</b>
<b>S 697A</b>	As above, but socket outlet base screwed for 1/4-in. gas thread		
<b>S 797</b>	Spare plug with clamping ring ..	<b>14</b>	<b>4</b>
		<b>4</b>	<b>4</b>



**S 697**

#### EXTRAS. For Flanged Brass Socket Outlets.

Finish	Abbreviation	Extra Price per doz.		
		2-AMP. and 5-AMP.		15-AMP.
		Circular Brass Flanges	Hinged Front Plates	Circular Brass Flanges
		s. d.	s. d.	s. d.
Black Bronze ..	B.B.	<b>1 0</b>	<b>1 4</b>	<b>1 8</b>
Antique Brass ..	A.B.	<b>2 4</b>	<b>2 8</b>	<b>3 8</b>
Gilt Colour ..	G.C.	<b>2 4</b>	<b>2 8</b>	<b>3 8</b>
Florentine Bronze ..	F.B.	<b>2 4</b>	<b>2 8</b>	<b>3 8</b>
Oxidized Copper ..	O.C.	<b>2 4</b>	<b>2 8</b>	<b>3 8</b>
Real Bronze Colour ..	R.B.C.	<b>2 4</b>	<b>2 8</b>	<b>3 8</b>
Nickel Plated ..	N.P.	<b>4 8</b>	<b>5 4</b>	<b>7 4</b>
Oxidized Silver ..	O.S.	<b>6 8</b>	<b>7 8</b>	<b>10 8</b>
Chromium Plated ..	C.P.	<b>10 0</b>	<b>12 8</b>	<b>16 0</b>

For Spare Plugs see page 463.



**S.E.C.**

# SOCKET OUTLETS AND PLUGS

## THREE-PIN SURFACE TYPE

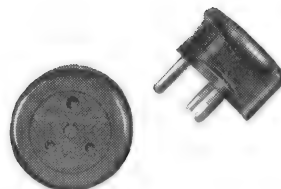
(TWO POLE AND EARTHING PIN.)

Manufactured in accordance with British Standard Specification No. 546 and bearing the authorised mark of the British Standards Institution



### 2 Amp.

Cat. No.	Diam. of Base	Description	Price per doz.	
	ins.		s.	d.
S 2792	1 $\frac{1}{4}$	Bakelite covered porcelain socket outlet with S2791 Bakelite plug, Brown ..	33	0



S 2792

### 5 Amp.

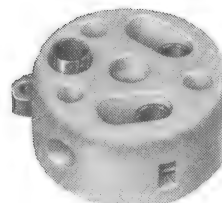
Cat. No.	Diam. of Base	Description	Price per dozen	
	ins.		s.	d.
S 2893	2 $\frac{1}{16}$	Bakelite covered porcelain socket outlet with S2894 Bakelite plug, Brown ..	37	0



S 2893

### 15 Amp.

Cat. No.	Diam. of Base	Description	Price per doz.	
	ins.		s.	d.
S 2895	3 $\frac{1}{8}$	Bakelite covered porcelain socket outlet with S2896 Bakelite plug, Brown ..	52	8



S 2895  
Socket only  
(cover removed).

For Spare Plugs see page 464.

Interchangeable with Socket Outlets and Plugs made to  
British Standard Specification No. 372 (Part 2).

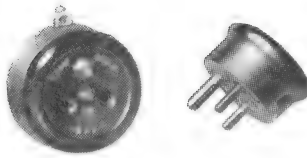
# S.E.C.

## SOCKET OUTLETS AND PLUGS

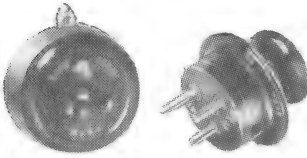
Handshield types with visible earth connections, comply with B.S.S. No. 372.

**2-AMP. THREE-PIN**  
(Two pole and earthing pin).

### SURFACE TYPE.



**S 800**



**S 792**

Cat. No.	Diam. of Base	Description	Price per dozen
	ins.		s. d.
<b>S 800</b>	1 $\frac{1}{4}$	Bakelite - covered porcelain socket outlet with S <b>801</b> bakelite flat top plug, Brown .. .. .	<b>29 8</b>
<b>S 792</b>	1 $\frac{1}{4}$	Ditto, with S <b>792A</b> handshield plug, Brown ..	<b>33 0</b>

### FLANGED TYPE (Bakelite).

**Circular Flanges.** Suitable for 2in. dia. conduit box.



**S 936**  
Fixing holes,  
1  $\frac{1}{2}$ in. centres.

Cat. No.	Diam. of Base	Description	Price per dozen
	ins.		s. d.
<b>S 936</b>	2	Bakelite flanged socket outlet with S <b>801</b> flat top plug, Brown .. .. .	<b>32 0</b>
<b>S 937</b>	2	As S <b>936</b> but with S <b>792A</b> handshield plug, Brown ..	<b>35 4</b>

### FLANGED TYPE (Brass).

**Circular Flanges.** Suitable for B.S. conduit boxes, 2in. fixing centres.



**S 932**

Cat. No.	Diam. of Base	Description	Price per dozen
	ins.		s. d.
<b>S 932</b>	2 $\frac{1}{8}$	Brass flanged socket outlet with S <b>801</b> flat top plug .. .. .	<b>32 0</b>
<b>S 933</b>	2 $\frac{1}{8}$	As S <b>932</b> but with S <b>792A</b> handshield plug .. .. .	<b>35 4</b>

### CONDUIT BOX TYPE.



**S 940**  
Fixing holes,  
1  $\frac{1}{2}$ in. centres.

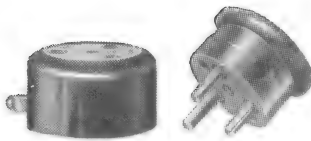
Cat. No.	Description	Price per dozen
		s. d.
<b>S 940</b>	Cream porcelain socket outlet with Bakelite (over) disc and S <b>801</b> flat top plug .. .. .	<b>32 0</b>
<b>S 945</b>	As S <b>940</b> but with S <b>792A</b> handshield plug .. .. .	<b>35 4</b>

*For Spare Plugs see page 465.*

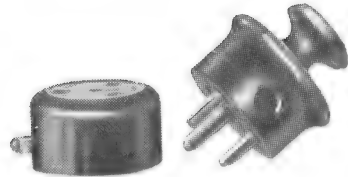
**S.E.C.**

**SOCKET OUTLETS AND PLUGS**  
Handshield types with visible connections, comply with  
**B.S.S. No. 372.**

**5-AMP. THREE-PIN**  
**(Two pole and earthing pin).**



**S 891**



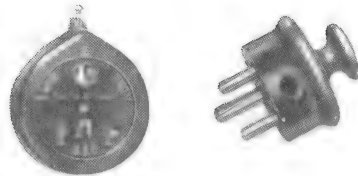
**S 893**

**SURFACE TYPE.**

Cat. No.	Diam. of Base	Description	Price per dozen	
			s.	d.
<b>S 891</b>	ins. 2	Bakelite-covered Cream porcelain socket outlet with <b>S 891A</b> bakelite flat top plug, Brown.. ..	<b>33</b>	<b>0</b>
<b>S 893</b>	2	Socket outlet as above with <b>S 894</b> hand-shield plug, Brown .. ..	<b>37</b>	<b>0</b>



**S 902**



**S 903**

**DAMPER SHUTTER PATTERN—SURFACE TYPE.**

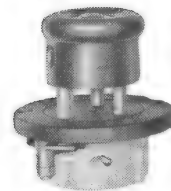
(Patent No. 377352)

Cat. No.	Diam. of Base	Description	Price per dozen	
			s.	d.
<b>S 902</b>	ins. 2	As <b>S 891</b> , but with spring shutter device with flat top plug, Brown.. ..	<b>48</b>	<b>0</b>
<b>S 903</b>	2	As <b>S 893</b> ditto, ditto, with handshield plug, Brown .. ..	<b>52</b>	<b>0</b>

**DAMPER SHUTTER PATTERN—FLANGED TYPE.**

(Patent No. 377352)

Cat. No.	Diam. of Flange	Description	Price per dozen	
			s.	d.
<b>S912</b>	ins. 2½	As <b>S 900</b> , but with spring shutter device with flat top plug, Brown ..	<b>55</b>	<b>0</b>
<b>S913</b>	2½	As <b>S 901</b> , ditto, ditto with handshield type plug, Brown .. ..	<b>59</b>	<b>0</b>



**S 912**

For Spare Plugs see page 465.

# S.E.C.

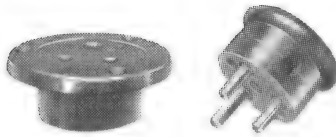
## SOCKET OUTLETS AND PLUGS

Handshield types with visible earth connections comply with B.S.S. No. 372.

### 5-AMP. THREE-PIN

(Two-pole and earthing pin).

### FLANGED TYPE CIRCULAR FLANGES.



**S 900**  
Bakelite Flange.

Cat. No.	Diam. of Plate	Description	Price per dozen	
			s.	d.
S 900	ins. 2 $\frac{1}{4}$	Bakelite flanged socket outlet with S 891A bakelite flat top plug, Brown ..	36	4
S 901	2 $\frac{1}{4}$	As S 900 but with S 894 bakelite handshield plug, Brown .. .. .	40	4

### SOLID CIRCULAR FRONTS TO FIT B.S. CONDUIT BOXES.

2 in. Fixing Centres



**S 970**

Cat. No.	Diam. of Plate	Description	Price per dozen	
			s.	d.
S 970	ins. 2 $\frac{1}{8}$	*Polished brass plates with bushed holes for L. and N. socket tubes with S 891A bakelite flat top plug .. .. .	36	4
S 971	2 $\frac{1}{8}$	Ditto with S 894 handshield plug, Brown .. .. .	40	4

\*For Other Finishes (supplied at short notice) see page 472.

### CONDUIT BOX TYPE



**S 645** (without plug).  
Fixing holes,  
1  $\frac{1}{8}$  in. centres.

Cat. No.	Description	Price per dozen	
		s.	d.
S 640	Cream porcelain socket outlet with bakelite (over) disc and S 891A flat top plug, Brown	40	0
S 641	As S 640, but with (under) disc	40	0
S 645	Cream porcelain socket outlet with bakelite (over) disc and S 894 bakelite handshield plug, Brown .. .. .	44	0
S 645A	As S 645, but with (under) disc	44	0
S 646	Spare bakelite (over) discs, Brown .. .. .	6	8
S 647	Spare bakelite (under) discs, Brown .. .. .	6	8

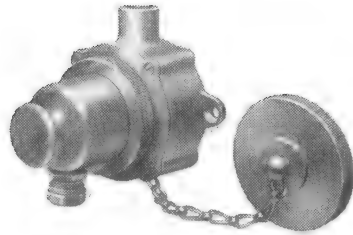
For Spare Plugs see pages 464 and 465.

**SOCKET OUTLETS AND PLUGS  
WATERTIGHT PATTERNS  
THREE-PIN**

**(Two pole and earthing pin).**

**5-AMP. BRITISH STANDARD GAUGE.**

Cat. No.	Description	Price each	
		s.	d.
<b>S 594</b>	Porcelain socket outlet (as <b>S 645</b> with (over) disc) mounted in C.I. case with screw-down brass cap, attached by chain, with <b>S 595</b> plug with clamping ring .. "Silverlac" finish*	<b>9</b>	<b>8</b>
<b>S 595</b>	Spare plug with clamping ring	<b>4</b>	<b>0</b>

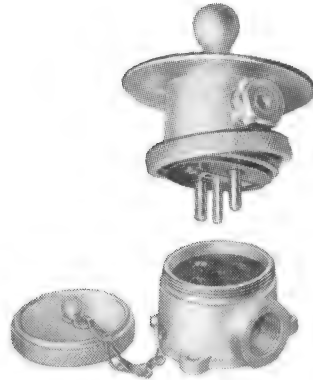


**S 594**

\*Tapped  $\frac{1}{2}$ in. Gas Thread or  $\frac{3}{8}$ in. or  $\frac{1}{4}$ in. Electric Thread

**10-AMP. NON-STANDARD GAUGE.**

Cat. No.	Description	Price each	
		s.	d.
<b>S 598</b>	Porcelain socket outlet with fibre disc mounted in small diameter conduit box with screw-down brass cover, attached by chain, with <b>S 599</b> handshield plug with clamping ring* .. ..	<b>10</b>	<b>0</b>
<b>S 599</b>	Spare handshield plug with clamping ring .. ..	<b>5</b>	<b>8</b>

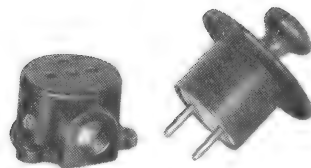


**S 598**

\*Tapped  $\frac{1}{2}$ in. Gas Thread or  $\frac{3}{8}$ in. or  $\frac{1}{4}$ in. Electric Thread

**WORKSHOP PATTERNS  
TWO-PIN AND THREE-PIN  
10-AMP. NON-STANDARD GAUGE.**

Cat. No.	Description	Price each	
		s.	d.
<b>S 631</b>	Socket outlet with fibre disc mounted in small diameter conduit box with <b>S 633</b> two-pin hand-shield plug .. ..	<b>6</b>	<b>0</b>
<b>S 633</b>	Spare two-pin handshield plug	<b>3</b>	<b>0</b>
<b>S 632</b>	Socket outlet with fibre disc mounted in small diameter conduit box with <b>S 634</b> three-pin (two pole and earth) handshield plug .. ..	<b>6</b>	<b>4</b>
<b>S 634</b>	Spare three-pin handshield plug	<b>3</b>	<b>4</b>



**S 631**

Tapped  $\frac{1}{2}$ in. Gas Thread or  $\frac{3}{8}$ in. or  $\frac{1}{4}$ in. Electric Thread\*

\*NOTE.—When ordering, please state tapping required.

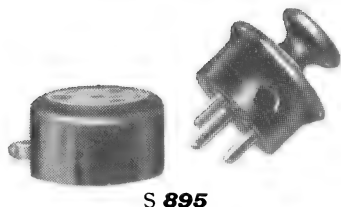
# S.E.C.

## SOCKET OUTLETS AND PLUGS

Handshield types with visible earth connections, comply with B.S.S. No. 372.

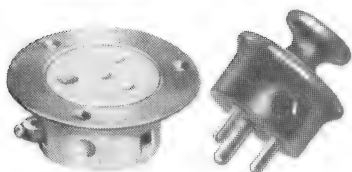
### 15-AMP. THREE-PIN (Two pole and earthing pin).

#### SURFACE TYPE



S 895

Cat. No.	Description	Price per doz.	
S 887	Bakelite covered socket outlet with S 887A bakelite flat top plug, Brown .. ..	s.	d.
		44	8
S 895	Socket outlet as above with S 896 handshield plug, Brown ..	50	8

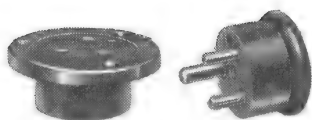


S 705

Brass Flange. Three fixing holes equidistant on 2½-in. circle.

#### FLANGED TYPE

#### CIRCULAR FLANGES. 3½in. Dia.



S 926

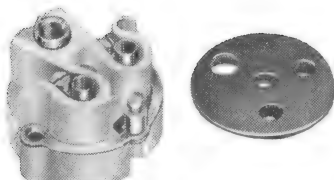
BAKELITE Flange.

Cat. No.	Description	Price per doz.	
S 709	Cream porcelain socket outlet with polished brass flange* and S 887A bakelite flat top plug, Brown .. ..	s.	d.
		50	8
S 705	Socket outlet as above with S 896 handshield plug, Brown ..	56	8
S 926	BAKELITE flanged socket outlet with S 887A flat top plug, Brown .. ..	50	8
S 927	As S 926 but with S 896 handshield plug. Brown ..	56	8

\* For other Finishes (supplied at short notice) see page 472.

#### CONDUIT BOX TYPE.

The Bakelite (over) Disc, Cat. No. S 667, fits over the hole in the switch-plate and clamps the plate to the box. The Bakelite (under) Disc, Cat. No. S 669, fits under the switch-plate, which is provided with corner fixing holes. The socket outlet has the same height and fixing centres as 10-15 amps. "Landor Senior" flush switches; switches and socket outlets can therefore be used in combination.



S 668 (without plug).

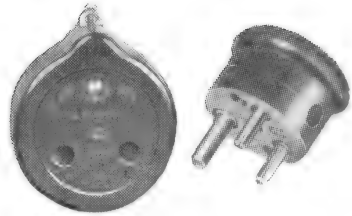
Fixing holes 2 ⅞ in. centres.

For Spare Plugs see page 465.

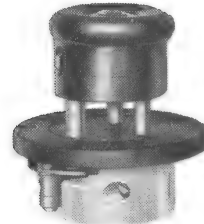
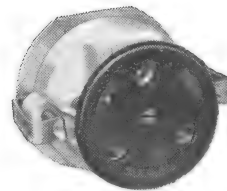
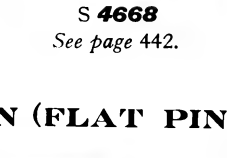
Cat. No.	Description	Price per doz.	
S 668	Cream porcelain socket outlet with bakelite (over) disc and S 887A flat top plug, Brown ..	s.	d.
		55	8
S 670	As S 668 but with (under) disc ..	55	8
S 665	Cream porcelain socket outlet with bakelite (over) disc and S 896 bakelite handshield plug, Brown .. ..	61	8
S 660	As S 665 but with (under) disc ..	61	8
S 667	Spare bakelite (over) disc, Brown .. ..	9	0
S 669	Spare bakelite (under) disc, Brown .. ..	9	0

**S.E.C.****SOCKET OUTLETS AND PLUGS****Handshield types with visible earth connections, comply with B.S.S. No. 372.****THREE-PIN  
(Two-pole and earthing pin).****15-AMP. DAMPER SHUTTER PATTERN***(Patent No. 377352)***SURFACE TYPE.**

Cat. No.	Description	Price per dozen	
		s.	d.
<b>S 906</b>	As <b>S 887</b> , but with spring shutter device and <b>S 887A</b> flat top plug, Brown .. ..	<b>60</b>	<b>0</b>
<b>S 907</b>	As <b>S 895</b> , but with spring shutter device, and <b>S 896</b> handshield plug, Brown .. ..	<b>66</b>	<b>0</b>

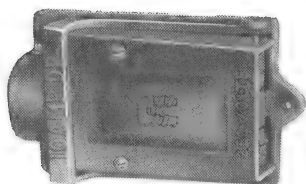
**S 906****FLANGED TYPE.  
Circular Flanges.**

Cat. No.	Description	Price per dozen	
		s.	d.
<b>S 916</b>	BAKELITE flanged socket outlet with spring shutter device and <b>S 887A</b> flat top plug, Brown .. ..	<b>68</b>	<b>0</b>
<b>S 917</b>	Ditto, ditto, but with <b>S 896</b> , handshield plug, Brown .. ..	<b>74</b>	<b>0</b>

**S 916****FLUSH SOCKET OUTLET WITH  
PATENTED LEVELLING DEVICE.****S 4668***For details see page 442.***S 4668***See page 442.***10-AMP. OVERSEAS PATTERN (FLAT PINS)****SURFACE TYPE.**

Cat. No.	Description	Price per dozen	
		s.	d.
<b>S 661</b>	Cream porcelain socket outlet with <b>S662</b> bakelite flat top plug, Brown, with flat non-reversible pins .. ..	<b>27</b>	<b>0</b>

**S 661***For Spare Plugs see pages 464 and 465.*

**S.E.C.****SOCKET OUTLETS AND PLUGS****FACTORY PATTERN****(Two Pole, Two Pole and Earth and Three Pole and Earth)****S 700**

These consist of ironclad receptacles of particularly robust construction and hardwood plugs to withstand rough handling. The plugs are fitted with socket tubes to obviate any projecting metal, the connecting pins being housed in the wall receptacle.

Tapped  $\frac{1}{2}$ -in. Gas Thread or  $\frac{1}{4}$ -in. or  $\frac{3}{8}$ -in. Electric Thread.\*

**5 AMP.**

Cat. No.	Dimensions of Base	Description	Price each	
			s.	d.
<b>S 694</b>	ins. $3\frac{1}{2} \times 2\frac{1}{2}$	Two-pole socket outlet and <b>S 694A</b> plug without earth connection .. ..	<b>5</b>	<b>0</b>
<b>S 694A</b>	—	Spare hardwood plug .. ..	<b>2</b>	<b>4</b>
<b>S 679</b>	$3\frac{1}{2} \times 2\frac{1}{2}$	Two-pole and earth socket outlet and <b>S 679A</b> plug .. ..	<b>6</b>	<b>0</b>
<b>S 679A</b>	—	Spare hardwood earthed plug .. ..	<b>3</b>	<b>0</b>

**10 AMP.**

Cat. No.	Dimensions of Base	Description	Price each	
			s.	d.
<b>S 700</b>	ins. $5 \times 3$	Two-pole and earth socket outlet and <b>S 700A</b> plug (as illustrated) .. ..	<b>10</b>	<b>8</b>
<b>S 700A</b>	—	Spare hardwood plug (earthed) .. ..	<b>4</b>	<b>4</b>
<b>S 701</b>	$5\frac{1}{2} \times 4$	Three-pole and earth socket outlet and <b>S 701A</b> plug .. ..	<b>15</b>	<b>4</b>
<b>S 701A</b>	—	Spare hardwood plug (earthed) .. ..	<b>8</b>	<b>0</b>

**30 AMP.**

Cat. No.	Dimensions of Base	Description	Price each		
			£	s.	d.
<b>S 713</b>	ins. $7\frac{1}{2} \times 5$	Two-pole and earth socket outlet and <b>S 713A</b> plug .. ..	<b>1</b>	<b>19</b>	<b>0</b>
<b>S 713A</b>	—	Spare hardwood plug (earthed) .. ..		<b>18</b>	<b>0</b>
<b>S 714</b>	$10 \times 7\frac{1}{2}$	Three-pole and earth socket outlet and <b>S 714A</b> plug .. ..	<b>2</b>	<b>14</b>	<b>0</b>
<b>S 714A</b>	—	Spare hardwood plug (earthed) .. ..	<b>1</b>	<b>4</b>	<b>4</b>

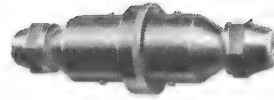
\* NOTE.—When ordering please state tapping required.



## CABLE COUPLINGS AND CONNECTORS



**S 810**

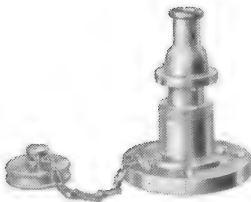


**S 812**

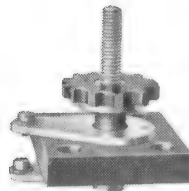
For rapid and efficient watertight connection of cable or flex. Cases of cast brass with steel bronze finish and ebonite interiors.

Capacity	Two-pole Coupling Complete			Spare Plug Portion only		
	Cat. No.	Dimensions	Price each	Cat. No.	Price each	
Amps.		ins.	£ s. d.		£ s. d.	
5	<b>S 810</b>	3 × 1 <sup>7</sup> / <sub>16</sub>	<b>9 0</b>	<b>S 810A</b>	<b>4 4</b>	
15	<b>S 811</b>	5 × 1 <sup>11</sup> / <sub>16</sub>	<b>12 4</b>	<b>S 811A</b>	<b>6 4</b>	
25	<b>S 812</b>	6 <sup>1</sup> / <sub>4</sub> × 2 <sup>1</sup> / <sub>4</sub>	<b>1 3 8</b>	<b>S 812A</b>	<b>11 8</b>	
50	<b>S 813</b>	6 <sup>1</sup> / <sub>4</sub> × 2 <sup>3</sup> / <sub>4</sub>	<b>1 11 8</b>	<b>S 813A</b>	<b>15 8</b>	
100	<b>S 814</b>	8 <sup>3</sup> / <sub>4</sub> × 3 <sup>3</sup> / <sub>4</sub>	<b>3 13 0</b>	<b>S 814A</b>	<b>1 16 4</b>	

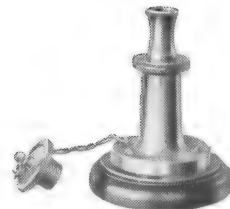
## SHIP'S TYPE CONNECTORS



**S 880**



**S 834**



**S 897**



**S 889**



**S 844**

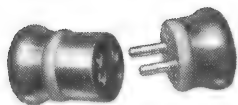


**S 899**

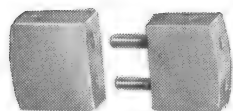
Cat. No.	Description	Price each
<b>S 834</b>	Fibre cargo connector base with wheel ..	s. <b>6</b> d. <b>8</b>
<b>S 844</b>	Fork for above .. .. .	<b>6 4</b>
<b>S 847</b>	"Klidos" cargo connection fork .. ..	<b>6 8</b>
<b>S 880</b>	Engine room B.C. double contact brass socket outlet and <b>S 881</b> plug .. ..	<b>11 0</b>
<b>S 881</b>	Spare plug for above .. .. .	<b>3 8</b>
<b>S 897</b>	Engine-room centre contact watertight brass socket outlet and <b>S 898</b> plug complete..	<b>16 8</b>
<b>S 898</b>	Spare plug for above .. .. .	<b>4 4</b>
<b>S 889</b>	Lignum vitæ cargo connector .. .. .	<b>2 0</b>
<b>S 899</b>	Concentric connector with long wooden handle .. .. .	<b>11 0</b>

# S.E.C.

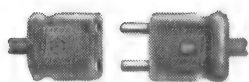
## FLEXIBLE CONNECTORS



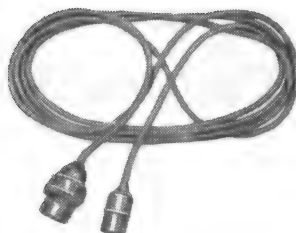
S 855



S 833

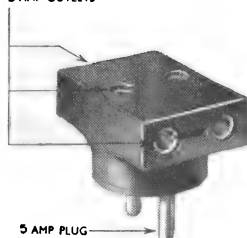


S 831



S 601

5 AMP OUTLETS



5 AMP PLUG

S 622



S 728

Amps.	Description	Price per dozen			
		Complete Plug and Socket		Spare Plugs	
		Cat. No.	Price	Cat. No.	Price
2	Hardwood (round) ..	S 735	s. d. 25 0	S 678	s. d. See page 462
2	Black or White ivoride (flat)	S 832	21 4	S 832A	10 8
5	Brown bakelite (round) ..	S 855	24 0	S 856	8 4
5	Brown bakelite (flat) ..	S 831	16 0	S 831A	8 0
5	Ditto, with external earth contacts ..	S 830	24 0	S 830A	12 0
5	Black or White ivoride (flat)	S 833	29 4	S 833A	14 8
15	Black bakelite (flat) ..	S 736	44 0	—	—

## HOUSEHOLD EXTENSIONS

Cat. No.	Description	Price each	
S 601	3 yards circular braided flexible, with bakelite B.C. lampholder and adaptor,	s. d. 3 4	
S 602	3 yards circular braided flexible, with bakelite B.C. lampholder and 5-amp. 2-pin plug	3 8	
S 603	3 yards circular braided flexible, with bakelite 5-amp. 2-pin connector, S 831	4 0	

## MULTIWAY PLUG ADAPTORS

Cat. No.	Plug	Outlets	Description	Price per dozen
	Amps.			s. d.
S 607	2	2-way	Tee piece	16 0
S 611	2	3 "	Ditto	24 0
S 622	5	3 "	Ditto	16 0
S 629	10	2 "	Ditto, Union Gauge	32 0
S 609	15	3 "	Tee piece	32 0
S 619	15	{ 1-15 amp. 2-5 " }	Ditto	37 0

**Brass Gauge Plates** for gauging existing plugs, Cat. No. S 728. Price 8s. 0d. per dozen.

## ADAPTORS

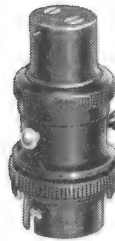
Cat. No.	Description	Price per doz.	
		s.	d.
S 754	B.C. Bakelite, with hooks in dividing fillet, with cap $\frac{7}{8}$ -in. long and $\frac{1}{8}$ -in. hole	4	4
S 873	B.C. With ball and socket cord grip, with cap $\frac{7}{8}$ -in. long and $\frac{1}{8}$ -in. hole .. ..	4	4
S 874	B.C. With hooks, guards, and ball and socket cord grip, with cap $\frac{7}{8}$ -in. long and $\frac{1}{8}$ -in. hole .. ..	5	4
S 874 A	B.C. Ditto, but with cap 1-in. long for heavy flex ..	6	0
S 875	B.C. As S 874, but with visible earth terminal .. ..	10	8
S 875 A	B.C. Ditto, but with cap 1 $\frac{3}{8}$ -in. long and $\frac{1}{4}$ -in. hole for heavy flex .. ..	11	4
S 875 E	B.C. Ditto, but with captive earth terminal nut ..	11	8
S 719	C.C. Centre contact (bayonet) Hardwood .. ..	22	4
S 720	S.B.C. Hardwood .. ..	12	8
S 723	B.C. Handshield hardwood ..	27	4
S 724	B.C. to B.C. switch lampholder and adaptor combined .. ..	40	0
S 726	E.S. Porcelain interior and moulded rotating cap ..	17	8
S 730 A	Two-pin to B.C., with adjustable pins, complete with pins for either :— <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <div style="display: flex; flex-direction: column; gap: 5px;"> <div>2 amp. B.S. Gauge</div> <div>5 " "Telac" "</div> <div>5 " "Union" "</div> <div>10 " "Telac" "</div> <div>15 " B.S. "</div> </div> <div style="font-size: 3em; line-height: 1;">}</div> </div> </div>	24	0
	Spare pins for any of above gauges, per dozen pairs	2	4
S 731	B.C. to B.C., with two two-pin 2-amp. outlets, including 2 plugs to each .. ..	48	0
S 866	E.S. to B.C. porcelain ..	21	4
S 867	B.C. to E.S. " ..	21	4
S 868	G.E.S. to E.S. " ..	21	4
S 821	B.C. Switch adaptor .. ..	44	0
S 739	B.C. Two in parallel (Prangnell)	60	0
S 751	B.C. Hardwood, with beehive cord grip .. ..	10	8



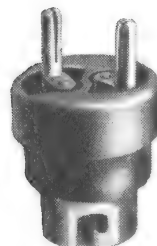
S 754  
B.C. Bakelite



S 720  
S.B.C.



S 724  
B.C. to B.C. Switch



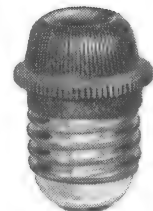
S 730 A  
Two-pin to B.C.  
(Patent No. 251068)



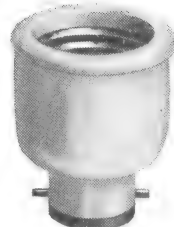
S 875 A  
B.C. Earthed  
(Patent No. 294317)



S 723  
Handshield



S 726  
E.S.



S 867  
B.C. to E.S.

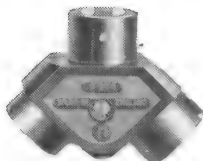


S 821  
B.C. Switch

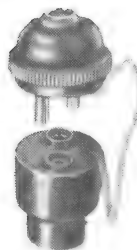
## ADAPTORS .



**S 820**



**S 824**



**S 729**



**S 820**

Display Box containing one dozen two-way adaptors.



**S 729**

Display Box containing three dozen two-pin to B.C. adaptors.

Cat. No.	Description	Price per dozen.	
		s.	d.
S 820	Two-way B.C. adaptor, consisting of moulded bakelite body, quick make and break switch controlling lower lamp-holder. All metal parts heavily nickel plated (as originally made and patented by the G.E.C.)	36	0
	When ordered in lots of one dozen (special display box free)		
S 824	Two - way non - switch adaptor	18	8
S 729	B.C. to two-pin 5-amp., with braided connecting cord to prevent loss	10	8
	When ordered in lots of three dozen (special display box free)		

## BRASS LAMPHOLDERS (B.C.)

### POLISHED BRASS

Type	"ECONOMIC" Medium		"STANDARD" Heavy		"EXCEL" Extra Heavy	
	Cat. No.	Price per doz	Cat. No.	Price per doz	Cat. No.	Price per doz
<b>Cord Grip :</b>		s. d.		s. d.		s. d.
With Shade Ring ..	S 1103	7 0	S 1153	11 4	S 1013	14 0
With extra large Cord Grip ..	—	—	S 1253	13 4	—	—
Do., and visible Earth Terminal ..	S 1143	10 8	S 1143A	14 8	—	—
The normal wood grips have two small parallel holes countersunk at point of entry ; Grips with single holes $\frac{1}{8}$ " - $\frac{3}{16}$ " or $\frac{1}{4}$ " dia., can be supplied at short notice.						
<b>Threaded :</b>		s. d.		s. d.		s. d.
$\frac{3}{8}$ " Plain ..	S 1101	6 4	S 1151	10 0	S 1011	12 8
$\frac{1}{2}$ " with Shade Ring	S 1102	6 8	S 1152	10 8	S 1012	13 4
$\frac{3}{4}$ " Plain ..	S 1104	6 4	S 1154	10 0	S 1014	12 8
$\frac{1}{2}$ " with Shade Ring	S 1105	6 8	S 1155	10 8	S 1015	13 4
$\frac{3}{4}$ " Plain ..	S 1106	6 4	S 1156	10 0	S 1016	12 8
$\frac{1}{2}$ " with Shade Ring	S 1107	6 8	S 1157	10 8	S 1017	13 4
$\frac{3}{4}$ " ditto ..	S 1100	7 0	—	—	—	—
$\frac{1}{2}$ " E.T. with Shade Ring ..	S 1256	11 8	S 1206	12 4	—	—
$\frac{3}{4}$ " ditto ..	S 1257	12 0	S 1207	13 0	—	—
$\frac{1}{2}$ " gas with Shade Ring ..	S 1258	11 8	S 1208	12 4	—	—
$\frac{3}{4}$ " ditto ..	S 1259	12 0	S 1209	13 0	—	—
<b>Backplate :</b>		s. d.		s. d.		s. d.
$1\frac{1}{8}$ " dia. Plain ..	S 1067	7 0	S 1148	11 0	S 1063	15 0
$1\frac{1}{4}$ " dia., with Shade Ring ..	S 1068	7 4	S 1149	11 8	S 1064	15 8
$2\frac{1}{8}$ " dia. with Shade Ring, 2" fixing centres ..	S 1058	12 8	—	—	—	—
$1\frac{7}{8}$ " oblong, Plain	—	—	—	—	S 1065	15 0
$1\frac{7}{8}$ " oblong, with Shade Ring ..	—	—	—	—	S 1066	15 8
$2\frac{1}{4}$ " oblong, Plain	S 1069	8 0	—	—	—	—
$2\frac{1}{4}$ " oblong, with Shade Ring ..	S 1070	8 4	—	—	—	—
Angle 45°, $1\frac{1}{4}$ " dia., Plain ..	S 1076	11 8	—	—	—	—
Do., with Shade Ring ..	S 1077	12 0	—	—	—	—
Angle $2\frac{1}{8}$ " dia. and 2" fixing centre, with swivelling arrangement for positioning lamp on B.S.S. Conduit Box ..	S 1079	18 0	—	—	—	—
Fixing Lug Type with rubber ring }	S 1080	7 0	—	—	—	—

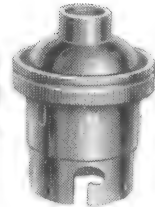
Spare Interiors, Cat. No. S 1113, 3s. 0d. per doz.  
rare "Ideal" Shade Rings, Cat. No. S 1126, 1s. 4d. per doz.

### EXTRAS

Special Finishes :—B.B., 8d.; G.C., A.B., F.B., O.C., A.C.,  
B.C., 1s. 4d.; N.P., 2s. 4d.; O.S., A.S., 4s. 0d.; C.P.,  
s. 0d. per dozen extra.



S 1103  
"Economic"  
cord grip



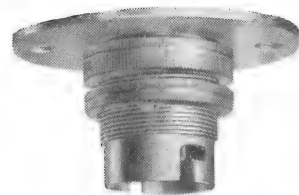
S 1151  
"Standard"  
threaded



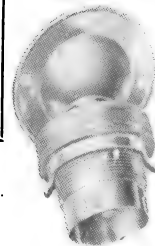
S 1206  
Conduit  
threaded



S 1066  
"Excel"  
backplate



S 1058  
2 $\frac{1}{8}$ " dia. backplate for B.S.S.  
conduit box mounting.



S 1077  
Angle backplate 45°



S 1080  
Fixing  
lug

# S.&C.

## BRASS LAMPHOLDERS (B.C.)

### FOR SPECIAL PURPOSES

#### POLISHED BRASS

#### "KINLOC" LAMPLOCKING PATTERNS



S 1013K

Type	"ECONOMIC" Medium		"STANDARD" Heavy		"EXCEL" Extra Heavy	
	Cat. No.	Price per doz.	Cat. No.	Price per doz.	Cat. No.	Price per doz.
<b>Cord Grip :</b> with Shade Ring ..		s. d.		s. d.		s. d.
<b>Threaded :</b> $\frac{1}{2}$ " brass, with Shade Ring	S1003K	11 0	S1153K	15 0	S1013K	17 8
$\frac{1}{2}$ " do. do.	S1005K	10 8	S1155K	14 4	S1015K	17 0
$\frac{3}{8}$ " do. do.	S1007K	10 8	S1157K	14 4	S1017K	17 0



S 1128

#### LOCKING KEYS



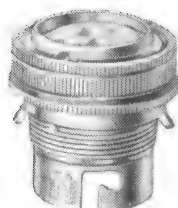
S 1128A



S 1109

Cat. No.	Description	Price each	
S 1128	For use when shade and lamp are in position .. ..	s.	d.
S 1128A	Flat type .. ..	2	8
		1	8

#### WEATHERPROOF TYPE

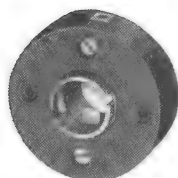


S 1071

Cat. No.	Description	Price per doz.		
S 1108	<b>Cord Grip :</b> with rubber gas- ket, overhanging dome, plain	£	s.	d.
S 1109	Ditto, with Shade Ring ..	1	3	0
S 1112	<b>Threaded :</b> $\frac{3}{4}$ " E.T., with Shade Ring .. ..	1	3	0
S 1117	Ditto, $\frac{3}{4}$ " E.T. .. ..	1	3	0
S 1117A	$\frac{1}{2}$ " gas, with Shade Ring ..	1	4	0

#### SIGN TYPE

Cat. No.	Description	Price per doz.	
S 1071	Cut-away Back, with Shade Ring for clamping to metal plate .. ..	s.	d.
		8	0



S 1057

#### BUS TYPE

Cat. No.	Description	Price per doz.	
S 1057	Moulded Backplate, with Brass Liner and Spring Leaf Con- tacts .. ..	s.	d.
		14	0

For Other Finishes and Spare Shade Rings see page 485.

**BRASS LAMPHOLDERS (B.C.)**  
**FOR SPECIAL PURPOSES**  
**POLISHED BRASS**  
**ANTI-VIBRATION TYPE**

Cat. No.	Description	Price per dozen	
		s.	d.
S 1192	<b>Cord Grip</b> , suspension loop, spiral } anti-vibration spring and shade ring }	<b>30</b>	<b>8</b>
S 1212	<b>Threaded</b> , $\frac{3}{8}$ -in. Brass Thread ditto	<b>21</b>	<b>4</b>
S 1213	<b>Backplate</b> .. .. ditto ..	<b>26</b>	<b>8</b>



**BRASS SWITCH**  
**LAMPHOLDERS (B.C.)**  
**POLISHED BRASS**  
**PUSH-BAR TYPE**

Description	"ECONOMIC"		"STANDARD"	
	Cat. No.	Price per doz.	Cat. No.	Price per doz.
		s. d.		s. d.
<b>Cord Grip</b> , with Shade Ring ..	S1473	<b>20 8</b>	S1323	<b>25 4</b>
Ditto, with visible earth screw ..	S1453	<b>24 8</b>	S1313	<b>29 4</b>
<b>Threaded</b> $\frac{1}{8}$ " Brass Thread with Shade Ring ..	—	—	S1322	<b>25 0</b>
$\frac{1}{2}$ " ditto, ditto ..	S1475	<b>20 4</b>	S1325	<b>25 0</b>
$\frac{3}{8}$ " ditto, ditto ..	S1477	<b>20 4</b>	S1327	<b>25 0</b>
$\frac{1}{4}$ " ditto, ditto, with visible earth screw ..	S1455	<b>24 4</b>	—	—
<b>Backplate</b> with Shade Ring	—	—	S1328	<b>46 0</b>

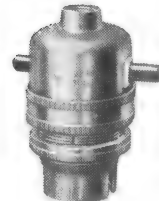


**S 1212**

**S 1192**



**S 1473**



**S 1475**

**Visible Earth Screw** can be fitted to all types at **3/8** per doz. extra.

**CHAIN-PULL TYPE**

Cat. No.	Description	Price per doz.
		s. d.
S 1046	<b>Cord Grip</b> , with Shade Ring ..	<b>41 0</b>
S 1045	<b>Threaded</b> , $\frac{1}{2}$ " Brass Thread ..	<b>40 0</b>



**S 1046**



**S 1045**

**EXTRAS**

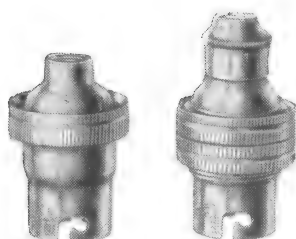
Finish	Extra Price per dozen			
	Push Bar		Chain Pull	
	s.	d.	s.	d.
Black Bronze (B.B.) .. ..	<b>1</b>	<b>0</b>	<b>1</b>	<b>8</b>
Gilt Colour (G.C.) .. ..	}	<b>0</b>	<b>3</b>	<b>0</b>
Antique Brass (A.B.) .. ..				
Florentine Bronze (F.B.) ..				
Oxidized Copper (O.C.) ..				
Real Bronze Colour (R.B.C.)	<b>2</b>	<b>4</b>	<b>7</b>	<b>4</b>
Nickel Plated (N.P.) .. ..	<b>4</b>	<b>0</b>	<b>8</b>	<b>8</b>
Oxidized Silver (O.S.) ..	<b>8</b>	<b>0</b>	<b>14</b>	<b>0</b>
Chromium Plated (C.P.) ..				

# S.E.C.

## BRASS LAMPHOLDERS

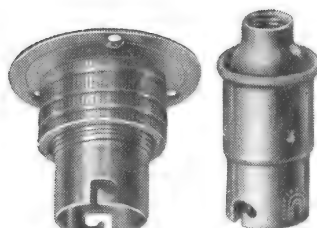
POLISHED BRASS

S.B.C.



S 1090

S 1092



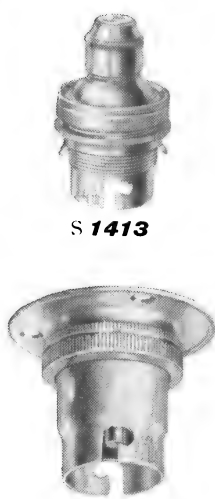
S 1094

S 1095

Cat. No.	Type	Price per dozen	
	<b>Cord Grip :</b>	s.	d.
S 1092	With Shade Ring .. ..	8	0
	<b>Threaded :</b>		
S 1090	$\frac{3}{8}$ " Brass Thread, Plain Liner ..	6	8
S 1091	Ditto Shade Ring ..	7	0
S 1090A	$\frac{1}{2}$ " Ditto Plain Liner ..	6	8
S 1091A	Ditto Shade Ring ..	7	0
S 1095	$\frac{3}{8}$ " Ditto, Plain Liner (Candle Tube Pattern) .. ..	8	0
	<b>Backplate :</b>		
S 1093	Round, Plain Liner .. ..	7	8
S 1094	Ditto, Shade Ring ..	8	0
S 1115	Spare Interiors for above ..	3	0

### CENTRE CONTACT PATTERNS

B.C. and S.B.C.



S 1413

S 1467

Type	B.C. Cat. No.	Price per doz.	S.B.C. Cat. No.	Price per doz.
		s. d.		s. d.
<b>Cord Grip :</b>				
With Shade Ring ..	S1413	6 8	S1492	8 4
<b>Threaded :</b>				
$\frac{3}{8}$ " Brass Thread, Plain Liner ..	S1411	6 0	S1490	7 0
Ditto, with Shade Ring	S1412	6 4	S1491	7 8
$\frac{1}{2}$ " Ditto, Plain Liner	S1414	6 0	S1490A	7 0
Ditto, with Shade Ring	S1415	6 4	S1491A	7 8
$\frac{3}{8}$ " Ditto, Plain Liner	S1416	6 0	—	—
Ditto, with Shade Ring	S1417	6 4	—	—
<b>Backplate :</b>				
Round, Plain Liner ..	S1467	6 8	S1493	8 0
Ditto, with Shade Ring	S1468	7 0	S1494	8 8
Oblong, Plain Liner	S1469	7 8	—	—
Ditto, with Shade Ring	S1470	8 0	—	—
Spare Interiors for above	S1114	2 8	S1116	2 8

### MINIATURE SCREW (M.E.S.)



S 1179

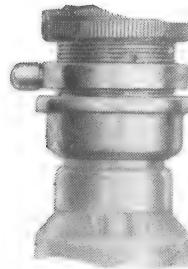
Cat. No.	Type	Price	
		per doz.	per gross
		s. d.	s. d.
S1179	With Backplate (as illustrated)	2 0	20 0
S1179A	Without Backplate .. ..	1 8	16 0

For Other Finishes see page 485.

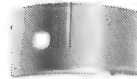


**S.E.C.****B.C. LAMP-LOCKING DEVICES****"LAMLOK" PATTERNS**

Cat. No.	Description	Price per doz.	
		s.	d.
<b>S 1120</b>	Straight Boss Lamp-locking Ring .. ..	<b>9</b>	<b>4</b>
<b>S 1122</b>	45° Angle Boss ditto .. ..	<b>10</b>	<b>4</b>
<b>S 1124</b>	Ditto, for use with bakelite lampholders, with ring or H.O. Shield ..	<b>10</b>	<b>8</b>
<b>S 1118</b>	As <b>S 1122</b> , but threaded to fit liner .. ..	<b>14</b>	<b>0</b>
<b>S 1139</b>	As <b>S 1120</b> , but for S.B.C. Angle Pattern Key for <b>S 1120</b> and <b>S 1139</b> ..	<b>9</b>	<b>8</b>
<b>S 1098</b>	Straight Key, 6" long, with insulated handle	<b>16</b>	<b>0</b>
<b>S 1121</b>	Straight Latch Pattern Key .. ..	<b>8</b>	<b>0</b>
<b>S 1125</b>	Knurled Pattern Key ..	<b>11</b>	<b>0</b>
<b>S 1130</b>	Combined "Lamlok" Shade Ring and Locking Ring .. ..	<b>18</b>	<b>8</b>

**S 1120****S 1121****S 1098****S 1130****S 1138****"FRANCIS" PATTERNS**

Cat. No.	Description	Price per doz.	
		s.	d.
<b>S 1134</b>	Non - magnetic type, "Francis" Bakelite Lamp Lock for bakelite lampholders ..	<b>16</b>	<b>0</b>
<b>S 1136</b>	Ditto, magnetic type ..	<b>18</b>	<b>8</b>
<b>S 1136B</b>	Ditto, for 25-watt Lamps, with Bakelite Washer	<b>18</b>	<b>8</b>
<b>S 1138</b>	"Francis" Brass Lamp Lock .. ..	<b>16</b>	<b>0</b>
—	Magnetic Tool for unlocking <b>S 1136</b> Bakelite pattern .. ..	each	<b>13 4</b>

**S 1159**Showing **S 1159** Clip in position**LAMP-LOCKING CLIPS**

Cat. No. **S 1159** .. Price **1s. 0d.** per dozen.  
**11s. 4d.** per gross.

**B.C. SHADE RING TOOLS**

Cat. No.	Description.	Price each	
		s.	d.
<b>S 1129</b>	Special Tool for fixing or removing Shade Rings with Lugs (as on "Economic" Lamp-holders) .. ..	<b>2</b>	<b>0</b>
<b>S 1210</b>	Pliers for all types of Shade Rings .. ..	<b>2</b>	<b>8</b>

**S 1129****S 1210**

# S.E.C.

## BAKELITE LAMPHOLDERS (B.C.)



S 2103



S 2110



S 2133



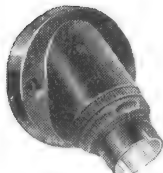
S 2153



S 2168



S 2105



S 2177



S 2169



S 1163



S 1233



S 1165



S 1368

### CORD-GRIP TYPES (\*Brown Finish).

Cat. No.	Description	Price per doz.
S 2103	Standard type with shade ring .. ..	6 0
S 2110	Ditto with shield .. ..	8 4
S 2103A	As S 2103 but with $\frac{1}{32}$ in. hole in cap .. ..	6 0
S 2110A	As S 2110 but with $\frac{1}{32}$ in. hole in cap .. ..	8 4
S 2133	With screw-down rubber gland cord-grip for T.R.S. flex with shade ring ..	10 8
S 2140	Ditto with shield .. ..	13 8
S 2153	Non-rotating cap and clamp-ring with shade ring ..	7 4
S 2160	Ditto with shield .. ..	9 8
S 2153A	As S 2153 but with $\frac{1}{32}$ in. hole in cap .. ..	7 4
S 2160A	As S 2160 but with $\frac{1}{32}$ in. hole in cap .. ..	9 8

### THREADED TYPES (Brown Finish).

S 2105	$\frac{1}{2}$ " brass with shade ring ..	8 8
S 2107	" ditto ditto ..	8 8
S 2126	" E.T. ditto ditto ..	8 8
S 2127	" E.T. ditto ditto ..	8 8
S 2129	$\frac{1}{2}$ " Gas ditto ditto ..	8 8

### BACKPLATE TYPES (Brown Finish).

$2\frac{1}{2}$ " diam. with Fixing Holes at 2" centres.

S 2168	With shade ring .. ..	10 0
S 2169	With shield .. ..	12 4
S 2177	45° angle backplate with shade ring .. ..	16 0

\* Most of the above can be supplied in black or oak finish at short notice without extra charge.

### CORD-GRIP TYPES (Cream Finish).

S 1163	Standard with elongated shade ring .. ..	12 8
S 1250	Ditto, but with shield ..	16 0
S 1233	As S 2133 for T.R.S. flex ..	17 4

### THREADED TYPES (Cream Finish).

S 1165	$\frac{1}{2}$ " brass with elongated shade ring .. ..	14 0
S 1167	" ditto ditto .. ..	14 0
S 1236	" E.T. " ditto .. ..	14 0
S 1237	" E.T. " ditto ditto ..	14 0
S 1239	" Gas ditto ditto .. ..	14 0

### BACKPLATE TYPES (Cream Finish).

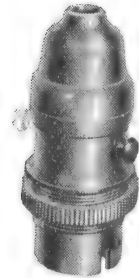
S 1368	With elongated shade ring ..	16 0
S 1369	Ditto shield .. ..	19 4

## BAKELITE SWITCH LAMPHOLDERS

B.C. WITH PUSH-BAR Q.M.Q.B. SWITCH

### CORD-GRIP TYPES.

Cat. No.	Description	Finish	Price per dozen	
S 2113	Standard type with shade ring ..	Brown	s.	d.
S 2120	Ditto with shield ..	ditto	31	4
S 2123	With screw down rubber gland and grip for T.R.S. flex with shade ring .. .. .	ditto	33	8
			35	4



S 2113

### THREADED TYPES.

Cat. No.	Description	Finish	Price per dozen	
S 2115	1/2" brass with shade ring ..	Brown	s.	d.
S 2117*	3/8" ditto ditto ..	ditto	31	0
			31	0

\* Also available in mahogany or oak colour finishes if desired, without extra cost.



S 2149

### BACKPLATE TYPES.

2 1/2 in. dia. with fixing holes at 2 in. centres.

Cat. No.	Description	Finish	Price per dozen	
S 2148	With shade ring .. .. .	Brown	s.	d.
S 2149	With shield .. .. .	ditto	40	0
			42	4

### FACTORY PATTERNS.

Special robust design for use in industrial establishments. Consisting of "Landor" pattern rapid make and break switch with embracing contacts for heavy duty.

Cat. No.	Description	Finish	Price per dozen	
	<b>CORD-GRIP</b>		s.	d.
S 2143	Screw down grip with rubber gland for T.R.S. flex with shield .. .. .	Brown	40	0
S 2163	Ball and socket grip for twin twisted flex with shade ring..	ditto	37	8
S 2170	Ditto with shield .. .. .	ditto	40	0
	<b>THREADED</b>			
S 2145	1/2" brass thread with shield ..	ditto	41	4
S 2147	3/8" ditto ditto ..	ditto	41	4



S 2143

### SPARES FOR BAKELITE B.C. LAMPHOLDERS

Cat. No.	Description	Price per doz.	
		s.	d.
S 2136	Shade Rings .. Brown .. .	1	4
S 1166	Ditto .. Cream .. .	2	4
S 1158A	H.O. Shields .. Brown .. .	3	8
S 1168	Ditto .. Cream .. .	5	8

Any lampholders listed above and on page 490 not shown with Safety Shields can be so fitted in place of ordinary Shade Rings. Extra price per dozen : Brown, 2s. 4d.; Cream, 3s. 4d.



S 1158A

# S.E.C.

## BAKELITE LAMPHOLDERS (E.S.)



S 1361



S 1363



S 1190



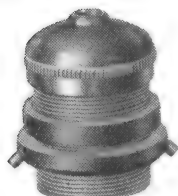
S 1538



S 1390



S 1539



S 1373



S 1360



S 1366A

Cat. No.	Description	Price per doz.	
		s.	d.
S 1363	<b>Cord Grip</b> , Brown .. ..	17	8
	Cream .. ..	29	0
	<b>Threaded</b> , Brown :		
S 1361	$\frac{5}{8}$ " E.T. .. ..	21	0
S 1362	$\frac{3}{4}$ " ditto .. ..	21	0
S 1364	$\frac{1}{2}$ " Gas .. ..	21	0
S 1365	$\frac{1}{2}$ " Brass .. ..	21	0
S 1367	$\frac{5}{8}$ " ditto .. ..	21	0
S1367A	Ditto, ditto, with brass nipple and grub screw .. ..	25	4

Cat. No.	Description	Price per doz.	
		s.	d.
S 1190	<b>Backplate</b> 2" Diameter ..	17	4
S 1194	As above, but with external thread to take galleries or shields .. ..	20	4
S 1390	As S 1190, but with <b>Shield</b> .. ..	22	8
S 1391	As S 1190, but with small shields for use with F 3759 $2\frac{1}{4}$ " galleries .. ..	22	8
S 1538	$2\frac{1}{2}$ " backplate, 2" fixing centres to fit direct to B.S. conduit boxes .. ..	22	0
S 1539	As S 1538 but with shield ..	25	0

### SHORT-CIRCUITING PATTERN for Series Burning Lamps.

Patent No. 402558.

Cat. No.	Description	Price per doz.	
		s.	d.
S 1377	<b>Threaded</b> $\frac{5}{8}$ " Brass thread ..	23	8
S 1292	<b>Backplate</b> , as S 1190 ..	20	0
S 1392	Ditto with <b>Shield</b> ..	25	4

### ADJUSTABLE FOCUS SHORT-CIRCUITING PATTERN.

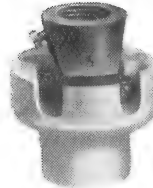
Cat. No.	Description	Price each	
		s.	d.
S 1373	<b>Cord Grip</b> with fixing rings	6	8

### Extras.

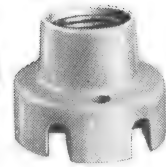
Cat. No.	Description	Price per doz.	
		s.	d.
S 1360	Shields for S 1361/1377 and S 1194 Brown .. ..	6	8
S 1366	Galleries, $2\frac{1}{4}$ " } Metal finished ..	9	4
S1366A	Ditto $3\frac{1}{4}$ " } to match Brown bakelite {	21	4

**S.E.C.****LAMP HOLDERS (E.S.) AND (G.E.S.)****METAL AND PORCELAIN****EDISON SCREW (E.S.)  
COPPER CASED TYPE.**

Cat. No.	Description	Price per doz.
		s. d.
S 1201	Threaded: 1" Gas	36 0
S 1202	Ditto 1" Brass	
S 1203	Ditto 1" E.T.	
S 1204	Ditto 1" E.T.	
S 1205	Cord Grip	44 0
S 1301	Threaded: 1" Gas	29 4
S 1302	Ditto 1" Brass	
S 1303	Ditto 1" E.T.	
S 1304	Ditto 1" E.T.	
S 1305	Cord Grip	32 0
S 1401	Threaded: 1" Gas	27 0
S 1402	Ditto 1" Brass	
S 1403	Ditto 1" E.T.	
S 1404	Ditto 1" E.T.	
S 1405	Cord Grip	29 8

**S 1301****S 1201****S 1341****S 1541**  
(part section)**ALL-PORCELAIN TYPE.**

Cat. No.	Description	Price per doz.
		s. d.
S 1341	Threaded Yoke, 1" Gas	27 8
S 1343	Ditto 1" E.T.	
S 1541	Ditto 1" Gas	
S 1542	Ditto 1" Brass	
S 1543	Ditto 1" E.T.	34 4
S 1344	Backplate without shield	17 8
S 1544	Ditto with porcelain shield	24 4

**S 1193****S 1344****SIGN TYPE (E.S.)**

Cat. No.	Description	Price per doz.
		s. d.
S 1193	For Trough Metal Signs, Porcelain, complete	11 0
S 1191	For Wood Letters, Porcelain	
S 1244	Backplate, Stage Lighting, ditto	

Rubber Rings for S 1191 .. .. Price per doz. 8d.

**S 1186****S 1358****GOLIATH (G.E.S.)  
ALL-PORCELAIN TYPE.**

Cat. No.	Description	Price per doz.
		s. d.
S 1351	Threaded Yokes, 1" Gas	40 0
S 1353	Ditto 1" E.T.	
S 1561	Ditto 1" Gas	
S 1563	Ditto 1" E.T.	
S 1354	Backplate without shield	30 0
S 1564	Ditto with porcelain shield	36 0
S 1169	Threaded* 1" Gas	53 4
S 1169A	Ditto 1" Brass	
S 1186	Ditto 1" E.T.	
S 1187	Ditto 1" E.T.	
S 1188	Ditto 1" Gas	24 0
S 1358	Ditto 1" Gas	
S 1358A	Ditto 1" E.T.	
S 1359	Cord Grip†	

**S 1561****S 1169**

\* Porcelain cap type with copper clamping ring.

† Metal case type.

# S.E.C.

## PORCELAIN LAMPHOLDERS (B.C.)



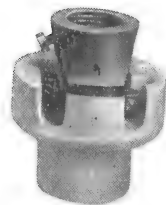
S 1334



S'1234



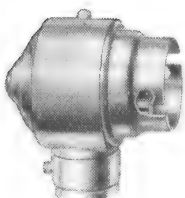
S 1531



S 1331

Cat. No.	Description	Price per doz.	
		s.	d.
S 1331	<b>Threaded Yokes :</b> 1/2" Gas	26	8
S 1332	Ditto 1/2" Brass		
S 1333	Ditto 1/2" E.T.		
S 1531	Ditto 1/2" Gas		
S 1532	Ditto 1/2" Brass	33	4
S 1533	Ditto 1/2" E.T.		
S 1334	<b>Backplate :</b> without shield .. ..	16	8
S 1534	Ditto with porcelain shield .. ..	23	4
S 1234	Ditto stage lighting type.. ..	8	0
S 1231	<b>Sign Type :</b> four lugs with 2 fixing screws for trough metal signs (see illustration below)* .. ..	13	4

### LAMPHOLDERS (B.C.) FOR SPECIAL PURPOSES. "GENALEX" REFLECTOR TYPE Nickel Plated.

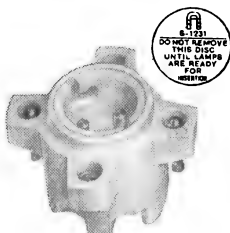


S 1215

Cat. No.	Description	Price per doz.	
		s.	d.
S 1215	Single-ended, right angle, 1/2" brass	26	8
S 1217	Double-ended parallel, ditto	44	4

**EXTRA**—Single or double-ended holders, bushed 1/2" brass thread .. .. 2/8 dozen extra

### LAMPHOLDERS FOR ARCHITECTURAL LAMPS PEG TYPE.



\* S 1231



S 1339 Cream porcelain



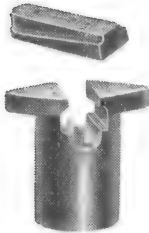
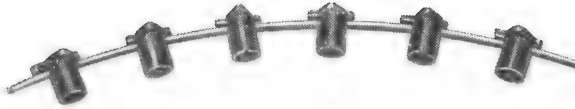
S 1345 Black bakelite.

Cat. No.	Description	Price per pair	
		s.	d.
S 1339	Cream vitreous porcelain .. ..	3	4
S 1339A	Ditto ditto with nickel-plated security clip .. ..	3	8
S 1345	Black bakelite .. ..	3	4
S 1345A	Ditto with rubber gaskets and pads to render same weatherproof .. ..	5	4

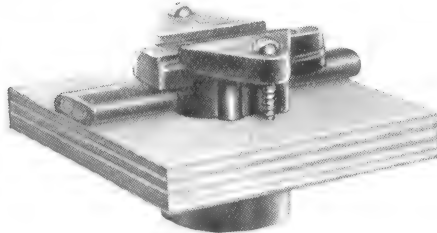
## ILLUMINATION LAMPHOLDERS

### "WEDGE" TYPE

Patent No. 390294



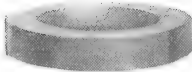
**S 4000**  
Bayonet Cap



Section of wood letter  
showing position of cable  
in relation to woodwork  
with E.S. Holder.



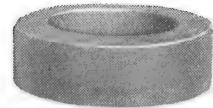
**S 4003**  
Edison Screw



**S 4001**  
Rubber Ring for B.C.  
Lampholder.



**S 4002**  
Rapid Fixing Pliers



**S 4004**  
Rubber Ring for E.S.  
Lampholder.

Cat. No.	Type	Description	Price per dozen.	
<b>S 4000</b>	B.C.	All Bakelite "Wedge" Lampholders for use with Twin 7/.029" T.R.S. Cable or special V.I.R. Cable made to same external dimensions ..	s.	d.
			<b>15</b>	<b>0</b>
<b>S 4001</b>	—	Rubber Rings for B.C. Lamps	<b>1</b>	<b>0</b>
<b>S 4003</b>	E.S.	All Bakelite "Wedge" Lampholders for use with Twin 7/.029" T.R.S. Cable or special V.I.R. Cable made to same external dimensions ..	<b>15</b>	<b>0</b>
<b>S 4004</b>	—	Rubber Rings for E.S. Lamps	<b>1</b>	<b>0</b>
<b>S 4002</b>	—	Forked Pliers to facilitate speed in fixing .. .. .	Each	<b>6 0</b>

Special quotations for large quantities.

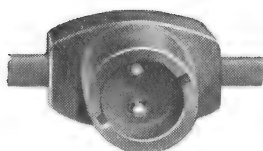
# S.E.C.

## "FAIRYLAND" STRIP (B.C.)

READY WIRED FOR ILLUMINATION WORK

### BAKELITE ALL-INSULATED.

Mounted on Twin 7/.029" V.I.R. Cable.

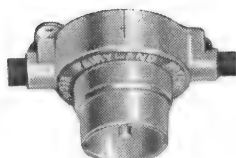


**S 3706**  
Bakelite B.C.

Cat. No.	Centres of Holders	Price per Holder	
		s.	d.
<b>S 3706</b>	ins. 6	<b>1</b>	<b>7</b>
<b>S 3709</b>	9	<b>1</b>	<b>8</b>
<b>S 3712</b>	12	<b>1</b>	<b>9</b>
<b>S 3718</b>	18	<b>1</b>	<b>11</b>
<b>S 3724</b>	24	<b>2</b>	<b>1</b>
<b>S 3736</b>	36	<b>2</b>	<b>4</b>

### BRASS.

Mounted on Twin 7/.029" V.I.R. Cable.

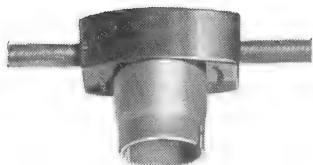


**S 3006**  
Brass B.C.

Cat. No.	Centres of Holders	Price per Holder	
		s.	d.
<b>S 3006</b>	ins. 6	<b>1</b>	<b>2</b>
<b>S 3009</b>	9	<b>1</b>	<b>3</b>
<b>S 3012</b>	12	<b>1</b>	<b>6</b>
<b>S 3018</b>	18	<b>1</b>	<b>8</b>
<b>S 3024</b>	24	<b>1</b>	<b>10</b>
<b>S 3036</b>	36	<b>2</b>	<b>2</b>

### BRASS HOLDER WITH COMPRESSED COMPOSITION BASE.

Mounted on Twin 7/.029" V.I.R. Cable.



**S 3106**  
B.C.

Cat. No.	Centres of Holders	Price per Holder	
		s.	d.
<b>S 3106</b>	ins. 6	<b>1</b>	<b>9½</b>
<b>S 3109</b>	9	<b>1</b>	<b>11</b>
<b>S 3112</b>	12	<b>2</b>	<b>0</b>
<b>S 3118</b>	18	<b>2</b>	<b>2½</b>
<b>S 3124</b>	24	<b>2</b>	<b>7½</b>
<b>S 3136</b>	36	<b>3</b>	<b>0</b>

*Special requirements delivered at short notice.*



**S.E.C.**

## "FAIRYLAND" STRIP (B.C.)

READY WIRED FOR ILLUMINATION WORK

### S.B.C. BRASS HOLDER WITH COMPRESSED COMPOSITION BASE

Mounted on Twin 3/.029" V.I.R. Cable.

Cat. No.	Centres of Holders	Price per Holder							
		Parallel		Simple Series		Series Parallel		Multiple Series	
	ins.	s.	d.	s.	d.	s.	d.	s.	d.
S 3204	4	1	1 ½	1	1 ½	1	1 ½	1	2
S 3205	5	1	2 ½	1	2	1	2 ½	1	3
S 3206	6	1	3 ½	1	3	1	3 ½	1	4
S 3209	9	1	4	1	3 ½	1	4	1	5
S 3212	12	1	5	1	4 ½	1	5	1	5 ½



**S 3204**  
S.B.C.

## WATERTIGHT "FAIRYLAND" STRIP (E.S.)

COMPOSITION HOLDER

Mounted on Twin 7/.029" V.I.R. Cable

Centres of Holders	Without Fixing Lugs			With Fixing Lugs		
	Cat. No.	Price per Holder		Cat. No.	Price per Holder	
ins.		s.	d.		s.	d.
6	S 3506	1	9 ½	S 3806	1	1 1
9	S 3509	1	1 1	S 3809	2	1
12	S 3512	2	0	S 3812	2	3
18	S 3518	2	2 ½	S 3818	2	4 ½
24	S 3524	2	7 ½	S 3824	2	9 ½
36	S 3536	3	0	S 3836	3	2



**S 3506**  
E.S.

### SMALL EDISON SCREW (S.E.S.)

COMPOSITION HOLDER

Mounted on Special V.I.R. Cable

Cat. No.	Centres of Holders	Price per Holder					
		Simple Series		Series Parallel		Multiple Series	
		s.	d.	s.	d.	s.	d.
S 3604	4	1	0	1	0 ½	1	1
S 3606	6	1	1	1	1 ½	1	1 ½
S 3609	9	1	1 ½	1	2	1	2 ½
S 3612	12	1	2 ½	1	3	1	3 ½



**S 3604**  
S.E.S.

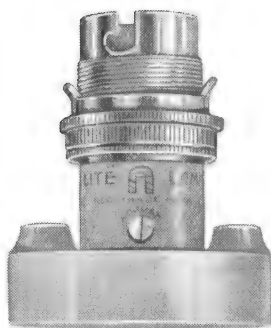
*Special requirements at short notice.*

# S.E.C.

## "FLASH-O-LITE" THERMIC FLASHER LAMPHOLDERS



**S 1441**  
Adaptor type



**S 1461**  
Backplate type



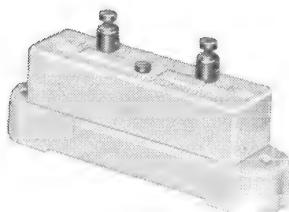
**S 1481**  
Cord Grip type

Volts.	Watts	ADAPTOR		BACKPLATE		CORD GRIP*	
		Cat. No.	Price each	Cat. No.	Price each	Cat. No.	Price each
100/115	15/20	<b>S 1441</b>	s. d.	<b>S 1461</b>	s. d.	<b>S 1481</b>	s. d.
200/260	30/40		<b>4 0</b>		<b>8 8</b>		<b>9 4</b>
100/115	30/40	<b>S 1442</b>	s. d.	<b>S 1462</b>	s. d.	<b>S 1482</b>	s. d.
200/260	60/80		<b>4 0</b>		<b>8 8</b>		<b>9 4</b>
100/115	60/80	<b>S 1443</b>	s. d.	<b>S 1463</b>	s. d.	<b>S 1483</b>	s. d.
			<b>4 0</b>		<b>8 8</b>		<b>9 4</b>

\* The cord grip type is supplied wired with two yards flex and B.C. adaptor.

### THERMIC FLASHERS BLOCK TYPE

Vitreous porcelain base and cover.

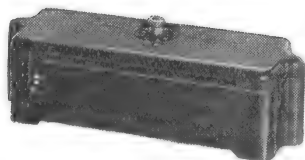


**S 1421**

Cat. No.	Volts	Watts	Price each	
			s.	d.
<b>S 1421</b>	100/115	15/20	<b>3</b>	<b>4</b>
	200/260	30/40		
<b>S 1422</b>	100/115	30/40	<b>3</b>	<b>4</b>
	200/260	60/80		
<b>S 1423</b>	100/115	40/60	<b>3</b>	<b>4</b>
	200/260	90/120		

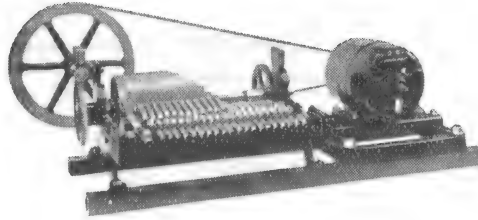
### THERMO-MAGNETIC TYPE

Moulded bakelite cases.



**S 1431**

Volts	Watts per way	Two-way		One-way	
		Cat. No.	Price each	Cat. No.	Price each
200/250	100	—	s. d.	<b>S 1445</b>	s. d.
	300	<b>S 1431</b>	<b>16 0</b>	<b>S 1447</b>	<b>18 0</b>
	400	<b>S 1432</b>	<b>18 0</b>	—	<b>20 0</b>
	500	—	—	<b>S 1448</b>	<b>70 0</b>
	600	<b>S 1433</b>	<b>39 0</b>	—	—
100/115	100	—	—	<b>S 1450</b>	<b>24 0</b>
	240	<b>S 1436</b>	<b>18 0</b>	<b>S 1451</b>	<b>28 0</b>
	450	<b>S 1437</b>	<b>60 0</b>	<b>S 1452</b>	<b>72 0</b>

**S.E.C.****MOTOR-DRIVEN FLASHERS****100/125 AND 200/250 VOLT \*****S 1270****"SCRIPT" TYPE**

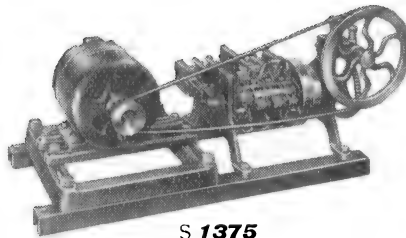
200 watts per way.

Cat. No.	No. of Ways	Price each					
		With D.C. Motor			With A.C. Motor (50 cycles)		
	up to	£	s.	d.	£	s.	d.
S 1270	20	18	13	4	19	1	0
S 1272	30	24	0	0	24	7	8
S 1274	40	28	8	0	28	8	0
S 1276	50	33	15	0	33	15	0
S 1278	60	39	0	0	39	0	0

**"CRAWLING" BORDER TYPE**

200 watts per way.

S 1280	20	18	13	4	19	1	0
S 1282	30	24	0	0	24	7	8
S 1284	40	28	8	0	28	8	0
S 1286	50	33	15	0	33	15	0
S 1288	60	39	0	0	39	0	0

**S 1375****"SPELLER" TYPE**

800 watts per way.

Cat. No.	No. of Ways	Price each					
		With D.C. Motor			With A.C. Motor (50 cycles)		
	up to	£	s.	d.	£	s.	d.
S 1370	1	9	15	0	10	2	8
S 1371	2	10	17	4	11	5	0
S 1372	3	12	0	0	12	7	8
S 1375	4	12	17	4	13	5	0
S 1376	5	13	15	0	14	2	8
S 1378	6	14	13	4	14	13	4
S 1382	8	16	8	0	16	8	0
S 1386	10	18	13	4	18	13	4
S 1389	12	20	0	0	20	0	0

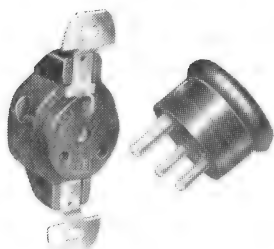
\* When ordering, voltage and (if A.C.) frequency should be stated.

*Special requirements quoted on application*

# **S.E.C.**

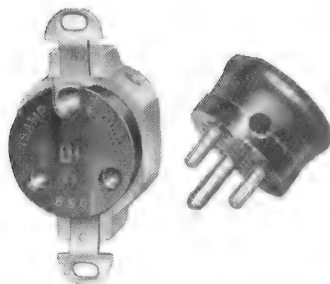
## **SOCKET OUTLETS AND PLUGS OVERSEAS TYPE**

**These socket outlets and plugs have been specially designed  
for Overseas requirements.**



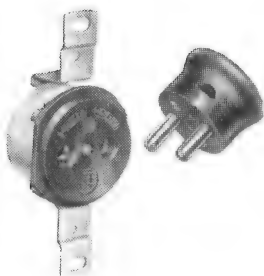
**S 963**

**With 5-Amp. Two Pole and Earth  
B.S.G. Plug.**



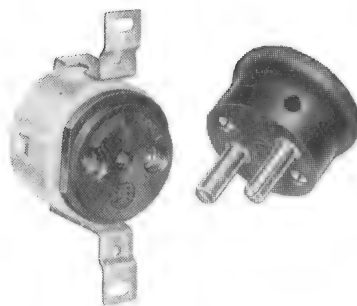
**S 965**

**With 15-Amp. Two Pole and Earth  
B.S.G. Plug.**



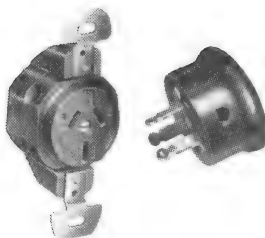
**S 966**

**With 5-Amp. Two-pin  
B.S.G. Plug.**



**S 967**

**With 15-Amp. Two-pin  
B.S.G. Plug.**



**S 621**

**With 10-Amp. Two Pole and  
Earth (Flat pin) Plug.**



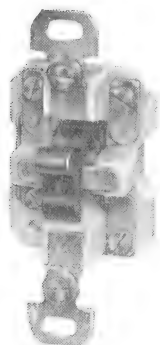
**S 962**

**10-amp. Two Pole and Earth  
(Flat pin) Plug, with Three-  
pin Radio Outlet to take  
S 801 2-amp. Three-pin Plug.**

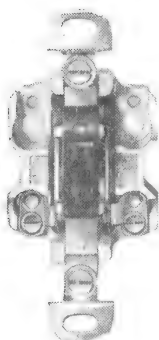
*Further details and prices on application.*

## **SWITCHES OVERSEAS TYPE**

**These Switches have been specially designed for Overseas requirements.**



**S 1621**  
5-Amp. 1-way.

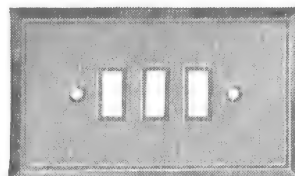
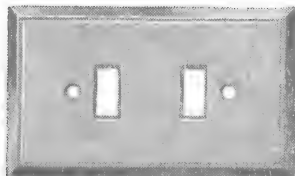
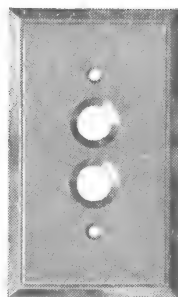
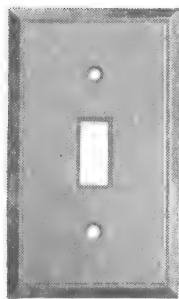


**S 1622**  
5-Amp. 2-way.



**S 1661**  
10-Amp. 1-way.

## **BAKELITE SWITCH PLATES**



*Details and prices of Overseas Switches and Switch plates on application.*

**G.E.C.**

# **Osram ELECTRIC LAMPS**

Every constituent part, as well as the complete Osram lamp is produced within the factories of The G.E.C.

The brass caps are made at Chesterfield ; the glass bulbs, tube and rod are manufactured by automatic bulb blowing and tube and rod drawing machines, which ensure uniformity of product, at the Lemington-on-Tyne and Wembley Glass Works of the Company. The argon gas used in the manufacture of Osram lamps is produced at the Osram Works, where also the leading-in conductors and filament supports are manufactured.

It is due to the fact that the G.E.C. controls within its own factories the manufacture of every requisite item from the tungsten filament to the finished lamp, that it is enabled to maintain at all times the high and uniform quality of the Osram lamp.

## **STANDARD VOLTAGES**

### **GROUP I.**

The voltages which have been standardized for Group I. lamps are given below. The prices of Group I. lamps shown in this catalogue apply only to the standard voltages in each range.

Prices of lamps for other voltages will be quoted on application.

<b>OSRAM GASFILLED LAMPS.</b>	
<b>Voltage Range.</b>	<b>Standard Voltages.</b>
25—30	25, 30
35—55	35, 40, 45, 50, 55
60—85	60, 65, 70, 75, 80, 85
100—130	100, 105, 110, 115, 120, 125, 130
200—260	200, 210, 220, 230, 240, 250, 260
<b>OSRAM VACUUM LAMPS.</b>	
<b>Voltage Range.</b>	<b>Standard Voltages.</b>
25—30	25, 30
35—55	50
60—85	60, 65, 70, 75, 80, 85
100—130	100, 105, 110, 115, 120, 125, 130
200—260	200, 210, 220, 230, 240, 250, 260
<b>ROBERTSON CARBON FILAMENT LAMPS.</b>	
<b>Voltage Range.</b>	<b>Standard Voltages.</b>
100—130	100, 105, 110, 115, 120, 125, 130
200—260	200, 210, 220, 230, 240, 250, 260

# Osram ELECTRIC LAMPS

## STANDARD PACKAGES

The ordering of lamps in standard packages cannot be recommended too strongly as it expedites delivery and reduces transit breakages. All lamps are stocked ready packed in the quantities shown in the schedule below, so that they can be despatched at a moment's notice.

## FIBERITE STORAGE BINS

For transit, in addition to the individual packing, the lamps are packed in strong fiberite boxes. These boxes are of a convenient size, shape and substance to be stacked one on top of the other and used as storage bins, thus effecting considerable saving both in time and space.

## SCHEDULE OF STANDARD PACKING.

Type of OSRAM Lamp	Watts	Voltage range	Quantity in standard package
Gasfilled	15	25 to 55	100
	25	25 to 130	100
	40	25 to 260	100
	60	25 to 260	100
	75	100 to 260	50
	100	35 to 260	50
	150	35 to 260	50
	200	35 to 260	24
	300	35 to 260	12
	500	35 to 260	12
	750	100 to 260	12
	1000	100 to 260	12
	1500	100 to 260	12
Vacuum	15	100 to 260	100
	25	100 to 260	100
	40	100 to 260	100
Automobile	Type	Bulb diameter	Quantity in standard package
	Headlight	m/m	
	Sidelight	38	12
	Tail-light	23 and 19	12
	Indicator	15	25
	Festoon	17	25

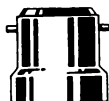
**S.E.C.**

**Osram**

# ELECTRIC LAMPS

## STANDARD CAPS

The illustrations below show the standard types of lamp caps fitted to OSRAM lamps together with the names by which they are known. The letters in brackets are the abbreviations used for these names throughout this catalogue.



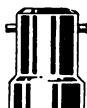
Bayonet (B.C.)



Goliath Edison Screw (G.E.S.)



Edison Screw (E.S.)



Small Bayonet (S.B.C.)



Small Edison Screw (S.E.S.)



Miniature Edison Screw (M.E.S.)

Scale :—Half size.

## LIST OF EXTRA CHARGES ON LIST PRICES FOR VARIATIONS FROM STANDARD PRACTICE.

### GROUP I.

Variation from standard	Group I.		
	OSRAM.		ROBERTSON.
	Vacuum.	Gasfilled.	Carbon.
VARNISHING ..	10%	10%	—
SILVERING	Price on application	Price on application	—
*CAPS : For S.B.C., S.E.S., S.C.C., in place of B.C., E.S., C.C. .. ..	2d. each	2d. each	2d. each
(See also exceptions for Sign Lamps on pages 522 to 524			
For G.E.S. in place of B.C. or E.S. Caps or vice versa .. ..	—	1/- each	—

\* S.B.C., S.E.S. and S.C.C. Caps cannot be supplied for higher wattages than 40 watts.



**Osram ELECTRIC LAMPS**

**PACKING, DELIVERY AND BREAKAGES  
IN TRANSIT**

Quantity	District.	Packing.	Delivery.	Transit breakages.
<b>Groups I., II., III., V. and VI.</b> Any quantity.	Inside G.E.C. free delivery areas.*	FREE	FREE	
<b>Group I.</b> Lamps to the list value of NOT less than £2 sent to one address <b>Groups II., V. &amp; VI.</b> Lamps to the list value of NOT less than £1 sent to one address.	Inside Railway Company's free delivery areas.	FREE	FREE	Replaced or credited at G.E.C. option.†
<b>Group III.</b> Standard boxes of 100 lamps.	Anywhere in the United Kingdom, by post.	FREE	FREE	
<b>Group I.</b> Lamps to the list value of LESS than £2. <b>Groups II., V. &amp; VI.</b> Lamps to the list value of LESS than £1. <b>Group III.</b> LESS than 100 lamps	<b>Outside G.E.C. free delivery areas.*</b>	FREE	<b>Charged at cost.</b>	<b>At purchasers' risk.</b>

† Transit breakages must be returned Carriage Paid, within 7 days, and G.E.C. advice note number quoted.

The Company does not accept responsibility for the safe custody of, or undertake to return, lamps forwarded for examination.

**\* G.E.C. FREE DELIVERY AREAS**

Within 12 miles of the G.P.O., London.

Within 6 miles of the G.P.O., in the following towns :—

Aberdeen	Derby	Middlesbrough
Accrington	Doncaster	Newcastle-on-Tyne
Ashford (Kent)	Dublin	Newport (Mon.)
Bedford	Dundee	Norwich
Belfast	Eastbourne	Nottingham
Birmingham	Edinburgh	Plymouth
Blackburn	Exeter	Portsmouth
Blackpool	Glasgow	Preston
Bournemouth	Gloucester	Reading
Bradford	Grimsby	Rotherham
Brighton (including Lewes)	Hastings	Rugby
Bristol	Huddersfield	Sheffield
Burslem	Hull	Southampton
Cardiff	Inverness	Stoke-on-Trent
Cheltenham	Ipswich	Sunderland
Chesterfield	Leeds	Swansea
Colchester	Leicester	Taunton
Cork	Lincoln	Tonbridge
Coventry	Liverpool	Tunbridge Wells
Croydon	Maidstone	Worthing
	Manchester	

**S.E.C.**

# **Osram ELECTRIC LAMPS**

**WITH "COILED COIL" FILAMENT**

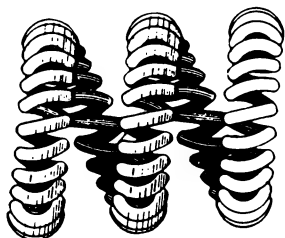


Fig. 1.  
The "Coiled Coil" filament.

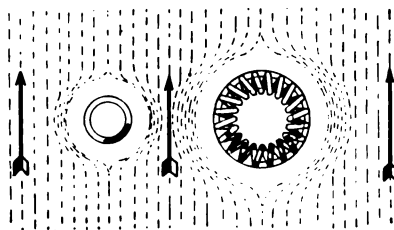


Fig. 2.  
Diagram of comparative filaments.

This new construction enables the filaments in Osram lamps to be made longer and thicker compared with corresponding single coil filaments of equal rating because by winding the filament, which is nearly a yard long, into a short thick coil, electricity which in the single coil lamps was lost in the form of heat is thereby saved.

In the Osram 40 watts "Coiled Coil" lamps—to take a typical example of the range for which the "Coiled Coil" has been adopted—the new filament is so economical that the lamp gives one-fifth more light than an ordinary 40 watt Osram gasfilled lamp.

The extra light given by the other sizes is as follows :—

60 watts 15%.    75 watts 12½%.    100 watts 10%.

As Osram "Coiled Coil" lamps are sold at the same price as the standard single coil gasfilled Osram lamps, consumers are therefore given up to 20% more light absolutely free.

The illustration (Fig. 1) shows clearly how the filament, which is made from drawn tungsten wire, is first coiled in the same way, but on a smaller radius, as the filament of an ordinary gasfilled lamp. This original small coil is then wound once more, this time on a considerably larger radius, into a much shorter and much thicker coil, which is the actual "Coiled Coil" filament.

The object of this double coiling is to concentrate into a very small space the long length of very fine tungsten wire which must be used in a lamp designed for high voltage and low wattage, and the final form of the filament is chosen so as to combine the largest possible diameter with the smallest possible length in order to reduce the area effectively exposed to the cooling action of the gas in the lamp bulb.

The diagram (Fig. 2) shows to scale the relative diameters of the ordinary coiled filament and of the "Coiled Coil" filament and the surrounding gas layers. The diameter being larger in the second case, it might at first be supposed that losses would be greater, but the sectional diagrams do not show the reduction of effective filament length, which much more than compensates for the increased diameter.

Osram lamps which incorporate the "Coiled Coil" filament are 40, 60, 75 and 100 watts with Pearl, Clear or Opal bulbs in the 200–260 volt range.

*The OSRAM "Coiled Coil" filament is made under one or more of the following British Patents :  
183,118 and 226,455, and other British Patents granted, and pending.*

# Osram ELECTRIC LAMPS

## FOR GENERAL LIGHTING SERVICE

### GROUP I.

### PEARL OSRAM LAMPS

The Pearl, or inside frosted bulbs, are the only bulbs which are recognised as standard for 15 to 100 watts General Lighting Service Lamps by the British Standards Institution in B.S.S. 161—1934, with which specification PEARL OSRAM Lamps comply in every detail.



25 watts



100 watts

Standard watts	Standard cap	STANDARD VOLTAGES AND PRICE PER LAMP					
		100, 105, 110, 115, 120, 125, 130, 200, 210, 220, 230. 240, 250 and 260 Volts		25 and 30 Volts	35, 40. 45, 50 and 55 Volts	60, 65, 70, 75, 80 and 85 Volts	
15	D.C.	s.      d.	s.      d.	s.      d.	s.      d.		
		<b>2      0</b>	<b>2      1</b>	<b>2      6</b>	<b>2      10</b>		
25		<b>1      9</b>	<b>2      6</b>	<b>2      6</b>	<b>2      6</b>		
*40			<b>2      6</b>	<b>2      6</b>	<b>2      6</b>		
*60			<b>3      0</b>	<b>3      0</b>	<b>3      0</b>		
*75		<b>2      6</b>	—	—	—		
*100			—	<b>5      3</b>	<b>5      3</b>		
150			<b>4      3</b>	—	—	—	

NOTE : In the above table the 15 watts size for 60 to 260 volts and the 25 watts size for 200 to 260 volts are vacuum type.

**THE PEARL OSRAM LAMPS, WITH THESE EXCEPTIONS, ARE GASFILLED.**

\* These lamps (200-260 volt only) are made with the new "Coiled Coil" filament (see page 506).

For Extras see page 504.

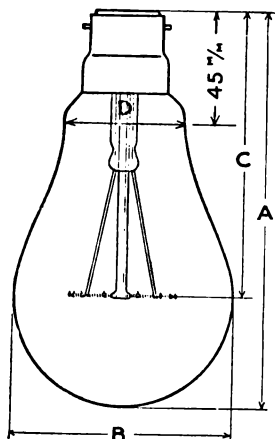
For dimensions see next page.

For PEARL OSRAM Traction Lamps see pages 525 and 526.

**S.E.C.**

# Osram ELECTRIC LAMPS

**FOR GENERAL LIGHTING SERVICE**



Dimensional Diagram  
15-100 watts.

**GROUP I.**

## PEARL AND CLEAR GASFILLED OSRAM LAMPS

**15 to 100 watts.**

DIMENSIONS AND LIGHT OUTPUT										
Standard watts	Voltage range	* Approx. lumens	Length		Bulb diameter		Cap contact to filament centre		Neck diameter	
			A		B		C		D	
			Tolerance ± 3 1/4 m/m		Tolerance ± 1 m/m		Tolerance ± 3 m/m		Tolerance ± 1 m/m	
			m/m	ins.	m/m	ins.	m/m	ins.	m/m	ins.
15	25 and 30	175	92.5	3 1/8	55	2 1/16	65	2 1/2	30	1 1/8
	35-55	152								
	60-130	130								
	200-260	115								
25	25 and 30	318	100	3 3/8	60	2 1/8	70	2 3/4	33	1 1/16
	35-55	293								
	60-85	256								
	100-130	230								
40	25 and 30	548	110	4 1/16	60	2 1/8	80	3 1/8	33	1 1/8
	35-55	509								
	60-85	467								
	100-130	430								
60	25 and 30	880	117.5	4 1/8	65	2 1/2	85	3 1/16	35	1 1/8
	35-55	815								
	60-85	754								
	100-130	730								
75	25 and 30	980	125	4 1/8	70	2 1/2	90	3 1/2	39	1 1/2
	35-55	880								
	60-85	790								
	100-130	730								
100	25 and 30	1473	137.5	5 1/8	75	2 3/8	100	3 3/8	39	1 1/2
	35-55	1358								
	60-85	1400								
	100-130	1160								

\* The light output figures quoted are those of single coil filament lamps.

The extra light given by "Coiled Coil" lamps is approximately 40w. 20%—60w. 15%—75w. 12 1/2%—100w. 10%.

# Osram ELECTRIC LAMPS

**FOR GENERAL LIGHTING SERVICE**

## GROUP I.



200 watts  
OSRAM Gasfilled Lamp.  
E.S. Cap.

## CLEAR GASFILLED LAMPS

Standard watts	Standard cap	STANDARD VOLTAGES AND PRICE PER LAMP					
		100, 130, 250	105, 200, 210, 220, 230, 240, 250 and 260 Volts	110, 115, 120, 125, 240, 250 and 260 Volts	25 and 30 Volts	35, 40, 45, 50 and 55 Volts	60, 65, 70, 75, 80 and 85 Volts
		s.	d.	s.	d.	s.	d.
*†40	B.C.	1	11	2	9	2	9
*†60	B.C.	1	11	3	3	3	3
*†75	B.C.	3	0	—	—	—	—
*†100	B.C.	3	0	—	—	5	6
150	B.C.	4	3	—	—	7	9
200	E.S.	7	6	—	—	9	6
300	G.E.S.	10	0	—	—	12	3
500	G.E.S.	12	6	—	—	15	6
750	G.E.S.	16	0	—	—	—	—
1000	G.E.S.	16	0	—	—	—	—
1500	G.E.S.	22	6	—	—	—	—

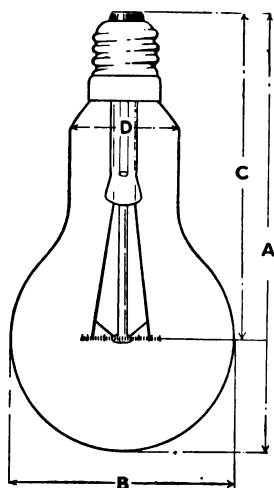
For EXTRAS see page 504. For dimensions see pages 508 and 510.

\* These lamps (200–260 volt) are available with the new “Coiled Coil” filament (see page 506).

† The dimensions and light output figures of the 40, 60, 75 and 100-watt sizes are the same as those shown on page 508 for PEARL OSRAMS, which latter lamps are the recognised standards for these wattages, and should be used in preference to clear lamps for General Lighting Service.

**S.E.C.**

**Osram** **ELECTRIC LAMPS**  
FOR GENERAL LIGHTING SERVICE



Dimensional Diagram  
150-1500 watts.

**GROUP I.**

**CLEAR GASFILLED  
LAMPS**

150 to 1500 watts.

DIMENSIONS AND LIGHT OUTPUT										
Standard watts	Voltage range	Approx. lumens	Length		Bulb diameter		Cap contact to filament centre		Neck diameter	
			A		B		C		D	
			m/m	ins.	m/m	ins.	m/m	ins.	m/m	ins.
150	35-55	2371	160 ± 4.5	6½	80 ± 1	3½	120 ± 4	4½	39 ± 1	1½
	60-85	2180								
	100-130	2130								
	200-260	1950								
200	35-55	3320	178 ± 5.5	7	90 ± 1	3½	133 ± 5	5½	45 ± 1	1¾
	60-85	3057								
	100-130	2960								
	200-260	2730								
300	35-55	5292	233 ± 7	9¾	110 ± 1.5	4 ⅞	178 ± 6	7	50 ± 1	1 ⅞
	60-85	4920								
	100-130	4770								
	200-260	4380								
500	35-55	9465	267 ± 8	10½	130 ± 1.5	5½	202 ± 7	7 ⅞	52 ± 1	2
	60-85	8858								
	100-130	8700								
	200-260	7920								
750	100-130	—	300 ± 9	11¾	150 ± 1.5	5¾	225 ± 8	8¾	55 ± 1	2 ⅞
	200-260	12800								
1000	100-130	19300	300 ± 9	11¾	150 ± 1.5	5¾	225 ± 8	8¾	55 ± 1	2 ⅞
	200-260	17900								
1500	100-130	30300	335 ± 9	13¾	170 ± 1.5	6 ⅞	250 ± 8	9 ⅞	60 ± 1	2⅞
	200-260	28700								

# Osram ELECTRIC LAMPS

FOR GENERAL LIGHTING SERVICE

## GROUP I.



60 watts  
OSRAM Opal Lamp.

## OPAL LAMPS (GASFILLED)

Standard watts	Standard cap	VOLTAGE RANGES AND PRICE PER LAMP.	
		100 to 130 volts and 200 to 260 volts	
		s.	d.
25	B.C.	<b>2</b>	<b>0†</b>
*40	B.C.	<b>2</b>	<b>0</b>
*60	B.C.	<b>2</b>	<b>0</b>
*75	B.C.	<b>3</b>	<b>1</b>
*100	B.C.	<b>3</b>	<b>2</b>
150	B.C.	<b>4</b>	<b>10</b>
200	E.S.	<b>8</b>	<b>6</b>
300	G.E.S.	<b>11</b>	<b>3</b>
500	G.E.S.	<b>14</b>	<b>0</b>

Approx. Dimensions				
Standard watts	Length		Diameter	
	m/m	ins.	m/m	ins.
25	100	3 <sup>15</sup> / <sub>16</sub>	55	2 <sup>3</sup> / <sub>16</sub>
40	110	4 <sup>5</sup> / <sub>16</sub>	60	2 <sup>1</sup> / <sub>8</sub>
60	118	4 <sup>5</sup> / <sub>8</sub>	65	2 <sup>1</sup> / <sub>4</sub>
75	125	4 <sup>7</sup> / <sub>8</sub>	70	2 <sup>3</sup> / <sub>4</sub>
100	138	5 <sup>3</sup> / <sub>8</sub>	75	2 <sup>15</sup> / <sub>16</sub>
150	175	6 <sup>3</sup> / <sub>8</sub>	90	3 <sup>1</sup> / <sub>4</sub>
200	200	7 <sup>7</sup> / <sub>8</sub>	110	4 <sup>5</sup> / <sub>16</sub>
300	267	10 <sup>1</sup> / <sub>2</sub>	130	5 <sup>1</sup> / <sub>8</sub>
500	300	11 <sup>1</sup> / <sub>2</sub>	150	5 <sup>5</sup> / <sub>8</sub>

† 100 to 130 volts only.

\* These lamps (200–260 volts) are available with the new “Coiled Coil” filament (see page 506).

**S.E.C.****Osram ELECTRIC LAMPS****FOR GENERAL LIGHTING SERVICE****GROUP I.**

150 watts  
OSRAM Daylight Lamp.

**DAYLIGHT LAMPS (GASFILLED)**

OSRAM Daylight lamps have special blue glass bulbs which produce a light corresponding closely to a north sky light, making them very useful for lighting purposes where colour discrimination is important.

When substituting Daylight lamps for Standard lamps, it generally will be found necessary to use lamps of a higher wattage to compensate for the light absorbed by the blue glass.

Standard watts	Standard cap	VOLTAGE RANGES AND PRICE PER LAMP	
		100 to 130 Volts and 200 to 260 Volts	
60	B.C.	s. <b>2</b>	d. <b>5</b>
100	B.C.	<b>4</b>	<b>0</b>
150	B.C.	<b>5</b>	<b>9</b>
300	G.E.S.	<b>12</b>	<b>9</b>

For EXTRAS see page 504.

The dimensions of these lamps are the same as those of the corresponding clear lamps given on pages 508 and 510.

For 15, 25 and 40 watt Daylight lamps (vacuum) see page 522.



# Osram ELECTRIC LAMPS

**FOR GENERAL LIGHTING SERVICE**

## GROUP I.



25 watts  
OSRAM Vacuum Lamp.

## CLEAR VACUUM LAMPS

While for certain types of fittings and lighting service clear lamps are necessary, for all General Lighting purposes the PEARL OSRAM Lamps shown on page 507 are recommended in preference.

Standard watts	Type of filament	Standard cap	VOLTAGE RANGES AND PRICE PER LAMP	
			100 to 130 Volts and 200 to 260 Volts	
15 25 40	Coil Coil Cage	B.C.	s. 2 1 1	d. 0 11 11

CAPS: Edison screw and centre contact bayonet caps are fitted if required without extra charge. For EXTRAS see page 504.

## DIMENSIONS AND LIGHT OUTPUT.

Standard watts	Voltage ranges	Approx. lumens	Length		Bulb diameter		Cap contact to filament centre	
			Tolerance $\pm 3\frac{1}{2}$ m/m		Tolerance $\pm 1$ m/m		Tolerance $\pm 3$ m/m	
15	100-130 200-260	127.3 108	m/m 92.5	ins. 3 $\frac{1}{2}$	m/m 55	ins. 2 $\frac{1}{4}$	m/m 65	ins. 2 $\frac{1}{2}$
25	100-130 200-260	230 203	100	3 $\frac{1}{2}$	60	2 $\frac{1}{2}$	70	2 $\frac{1}{2}$
40	100-130 200-260	372 348	136.5	5 $\frac{1}{2}$	62	2 $\frac{1}{2}$	—	—

**S.E.C.**

# Osram ELECTRIC LAMPS

**FOR SPECIAL LIGHTING SERVICE**

**GROUP I.**



OSRAM  
Candle Lamp.  
Plain.



OSRAM  
Candle Lamp.  
Twisted.

## CANDLE LAMPS PLAIN AND TWISTED

These candle lamps are supplied with either clear or colour sprayed bulbs.

The flame coloured lamps give a warm, mellow light, and are a very pleasing variation from the clear lamps.

The 25 watts lamps are vacuum type and the 40 watts gasfilled.

Standard watts	Length		Diameter		Shape	Finish	VOLTAGE RANGES AND PRICE PER LAMP					
							100—130 & 200—260 Volts		50 Volts		60—85 Volts	
	m/m	ins.	m/m	ins.			s.	d.	s.	d.	s.	d.
25	100 ±8	3 $\frac{11}{16}$	35 ±2	1 $\frac{3}{8}$	Plain {	Clear	<b>3</b>	<b>0</b>	<b>3</b>	<b>6</b>	<b>4</b>	<b>0</b>
						Coloured	<b>3</b>	<b>4</b>	<b>3</b>	<b>11</b>	<b>4</b>	<b>5</b>
					Twisted {	Clear	<b>3</b>	<b>6</b>	—	—	—	—
						Coloured	<b>3</b>	<b>11</b>	—	—	—	—
40	130 ±5	5 $\frac{1}{8}$	45 ±2	1 $\frac{3}{4}$	Plain {	Clear	<b>3</b>	<b>6</b>	—	—	—	—
						Coloured	<b>3</b>	<b>11</b>	—	—	—	—

**STANDARD CAP :** S.B.C. When specially ordered B.C. or S.E.S. caps can be fitted without extra charge.

**SERIES BURNING.**—When lamps are required for burning in series, this fact should be stated.

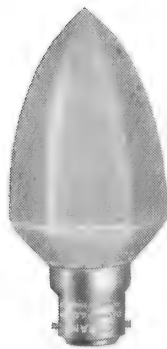
**STANDARD COLOURS :**—Red, pink, orange, yellow, green, blue, flame tint and white.

For Candle fittings see page 658.

# Osram ELECTRIC LAMPS

**FOR SPECIAL LIGHTING SERVICE**

**GROUP I.**



OSRAM "Gothic"  
Candle Lamp.

## GOTHIC CANDLE LAMPS

The OSRAM Gothic Candle Lamp is a complete novelty in lamp design and an artistic alternative to the ordinary candle lamp. Its geometrical shape makes it particularly appropriate for certain period and modernist types of fittings.



OSRAM "Huntalite"  
Candle Lamp.

Standard watts	Finish	Length		Diameter		VOLTAGE RANGES AND PRICE PER LAMP	
		Tolerance ± 3 m/m		Tolerance ± 2 m/m		100—130 and 200—260 Volts	
25	Ivory or Flame tint ..	m/m 108	ins. 4½	m/m 53	ins. 2½	s. 4	d. 6

STANDARD CAP: B.C. When specially ordered E.S., S.B.C., or S.E.S. caps can be fitted at an extra charge of 2d. each.

## "HUNTALITE" CANDLE LAMPS

Standard watts	Length (Tolerance $\pm 10$ m/m)				Diameter (Tolerance $\pm 2$ m/m)		Voltage Ranges and Price per lamp			
	100 to 130 volts		200 to 260 volts		100 to 130 and 200 to 260 volts.		50 volts		100-130 & 200-260	
	m/m	ins.	m/m	ins.	m/m	ins.	s.	d.	s.	d.
20	209	8 $\frac{1}{2}$	222	8 $\frac{1}{2}$	32	1 $\frac{1}{2}$	6	6	6	0
40	268	10 $\frac{1}{2}$	268	10 $\frac{1}{2}$	45	1 $\frac{1}{2}$	—	—	6	0

Unless otherwise specified, these lamps will be supplied with small bayonet caps and rated for parallel burning.

**S.E.C.****Osram ELECTRIC LAMPS****FOR SPECIAL LIGHTING SERVICE****GROUP I.**

OSRAM OPAL.  
Turn-down Lamp.

**OSRAM TURN-DOWN LAMPS**  
(VACUUM)

OSRAM Turn-Down Lamps are made to meet the many cases where it is an advantage to be able to regulate the light in a room—such as in bedrooms, sick rooms, night nurseries, etc.

They have two filaments, the brighter of which consumes 25 watts, and by simply pulling one or other of the switch cords the light can be increased or decreased as desired.

The bulbs are made of opal glass, which diffuses the light and produces a restful light absolutely free from glare.

Maximum Watts	Cap	Finish	Approx. Dimensions				VOLTAGE RANGES & PRICE PER LAMP	
			Length		Diameter		100-130 & 200-260 volts	
25	B.C.	Opal	m/m	ins.	m/m	ins.	s.	d.
			105	4 $\frac{1}{8}$	60	2 $\frac{3}{8}$	<b>4</b>	<b>3</b>

# Osram ELECTRIC LAMPS

**FOR SPECIAL LIGHTING SERVICE**

## GROUP I.



PEARL OSRAM (Gasfilled).  
Photo-Flood Lamp.

## PEARL OSRAM PHOTO-FLOOD LAMPS (GASFILLED)

The filaments of these lamps run at an extremely high temperature, which results in the production of a light especially suitable for indoor photography. Each lamp will enable approximately 2,000 feet of ciné film to be exposed, or about 300 ordinary photographs to be taken. This represents a life of 2 to 3 hours.

The lamps are fitted with standard bayonet caps and are no larger than the 60-watt Pearl OSRAM lamp, so that they can be used in any ordinary electric light fitting. A safety fuse is incorporated in the cap for protection in the case of accidental breakage.

Standard voltages	Nominal watts	Standard cap	Dimensions				PRICE PER LAMP	
			Length Tolerance $\pm 3.5$ m/m		Diameter Tolerance $\pm 1$ m/m		s.	d.
100-110 200-210 220-230 240-250	275	B.C.	m/m 117.5	ins. 4 $\frac{5}{8}$	m/m 65	ins. 2 $\frac{1}{2}$	<b>2</b>	<b>6</b>

E.S. Caps can be supplied without extra charge.

## OSRAM PHOTOGRAPHIC LAMPS (GASFILLED)

These are internally frosted, high efficiency lamps made on similar lines to the Photo-Flood Lamps described above. To meet the more exacting requirements of professional photographers, for which they are exceptionally suitable, they give a much more powerful light and last for approximately 100 hours. For best results these lamps should be used in conjunction with a reflector.

Voltage ranges	Standard watts	Standard cap	Dimensions				PRICE PER LAMP	
			Length Tolerance $\pm 4.5$ m/m		Diameter Tolerance $\pm 1.5$ m/m		s.	d.
100-130 and 200-260 volts	500	E.S.	m/m 175	ins. 6 $\frac{7}{8}$	m/m 100	ins. 3 $\frac{11}{16}$	<b>20</b>	<b>0</b>

Particulars of special reflectors for use with these lamps will be sent on application.

**S.E.C.**

# Osram ELECTRIC LAMPS

**FOR SPECIAL LIGHTING SERVICE**

**GROUP I.**



OSRAM Clear Tubular Lamp.  
(Approximately  $\frac{1}{2}$  full size)



OSRAM Opal Tubular Lamp.  
(Approximately  $\frac{1}{2}$  full size)

## TUBULAR LAMPS CLEAR

Standard watts	Length		Diameter		VOLTAGE RANGES and PRICE PER LAMP					
	Tolerance $\pm 3$ m/m		Tolerance $\pm 1$ m/m		100-130 and 200-260 Volts		50 Volts		60-85 Volts	
25	m/m	ins.	m/m	ins.	s.	d.	s.	d.	s.	d.
	92	3 $\frac{1}{2}$	25	1	<b>3</b>	<b>0</b>	<b>3</b>	<b>6</b>	<b>4</b>	<b>0</b>

CAPS: Standard S.B.C. When specially ordered B.C. or S.E.S. can be fitted without extra charge.

## OPAL

OSRAM Opal tubular lamps with long bulbs have been developed for showcase lighting, architectural panel lighting and modern style fittings where it is not practicable to employ the Striplite lamps with two caps.

For fittings in which the lamps are visible the tinted types are especially attractive. The latter are supplied either coloured wholly or graduated.

Standard watts	Length		Diameter		VOLTAGE RANGES, COLOUR and PRICE PER LAMP			
	Tolerance $\pm 3$ m/m		Tolerance $\pm 1$ m/m		100-130 and 200-260 volts			
					White Opal		Coloured	
40 60	m/m	ins.	m/m	ins.	s.	d.	s.	d.
	302	11 $\frac{1}{2}$	38	1 $\frac{1}{2}$	<b>6</b>	<b>0</b>	<b>6</b>	<b>6</b>

STANDARD COLOURS: Blue, Green, Yellow, Amber, Orange, Flame and Pink.

CAPS: Standard B.C. When specially ordered E.S. caps can be supplied without extra charge.

# Osram ELECTRIC LAMPS

**FOR SPECIAL LIGHTING SERVICE**

**GROUP I.**

## ARCHITECTURAL LAMPS

**100-130 and 200-260 volts.**

**STANDARD STRAIGHT LENGTHS**

Length		Diameter 30 m/m (1 $\frac{1}{8}$ ins.)				Diameter 40 m/m (1 $\frac{1}{2}$ ins.)			
m/m	Ins.	Watts	Opal	Coloured Opal	Colour Sprayed	Watts	Opal	Coloured Opal	Colour Sprayed
			s. d.	s. d.	s. d.		s. d.	s. d.	s. d.
305	12	35	<b>10 6</b>	<b>12 0</b>	<b>11 6</b>	60	<b>14 9</b>	<b>16 3</b>	<b>16 0</b>
500	19 $\frac{1}{2}$	{ 40 60 }	<b>14 6</b>	<b>16 9</b>	<b>15 6</b>	100	<b>20 3</b>	<b>22 3</b>	<b>21 9</b>
610	24	75	<b>16 0</b>	<b>18 6</b>	<b>17 0</b>	120	<b>22 6</b>	<b>24 9</b>	<b>23 9</b>
*915	36	110	<b>21 0</b>	<b>24 6</b>	<b>23 0</b>	180	<b>29 6</b>	<b>33 6</b>	<b>32 6</b>
*1220	48	150	<b>25 6</b>	<b>29 3</b>	<b>27 6</b>	240	<b>35 9</b>	<b>39 3</b>	<b>38 6</b>

\* 200-260 volts only.

**STANDARD CURVES**

	Diameter 30 m/m (1 $\frac{1}{8}$ ins.)				Diameter 40 m/m (1 $\frac{1}{2}$ ins.)			
	Watts	Opal	Coloured Opal	Colour Sprayed	Watts	Opal	Coloured Opal	Colour Sprayed
		s. d.	s. d.	s. d.		s. d.	s. d.	s. d.
Radius 25" $\frac{1}{4}$ circle	40 and 60	<b>20 0</b>	<b>23 0</b>	<b>22 0</b>	100	<b>28 0</b>	<b>30 9</b>	<b>30 9</b>
Radius 12 $\frac{1}{2}$ " $\frac{1}{2}$ circle								
Radius 6 $\frac{1}{4}$ " $\frac{1}{4}$ circle								
Right angle bend	40 and 60	<b>23 6</b>	<b>27 0</b>	<b>25 6</b>	100	<b>33 0</b>	<b>36 3</b>	<b>35 9</b>

Overall length along the centre line of the lamp 500 m/m (19  $\frac{1}{2}$  in.).

STANDARD COLOURS: Red, Pink, Orange, Yellow, Green, Flame and White.

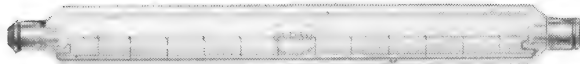
STANDARD CAPS, round peg type. Flat-sided caps will also be supplied without extra charge.

PRICES FOR OTHER LENGTHS AND CURVES ON APPLICATION.

Maximum length 48 inches. Lamps exceeding 24 inches in length are only available in 200-260 volts.

For Lampholders—peg cap type—see page 494.

## "STRIPLITE" LAMPS



OSRAM Striplite Lamps have spiralized tungsten filaments burning in a vacuum. The tubes are lighted uniformly throughout their length.

Standard watts	Length		Diameter		VOLTAGE RANGES and PRICE PER LAMP 100-130, 200-260 volts			
	Tolerance $\pm$ 2 m/m		Tolerance $\pm$ 1 m/m		Clear		Colour sprayed	
	m/m	ins.	m/m	ins.	s. d.	s. d.	s. d.	s. d.
30	{ 221 284 }	{ 8 $\frac{1}{8}$ 11 $\frac{1}{8}$ }	{ 25 25 }	{ 1 1 }	<b>4 0</b>	<b>4 9</b>	<b>4 9</b>	<b>4 9</b>
60	284	11 $\frac{1}{8}$	25	1	<b>4 9</b>	<b>5 9</b>	<b>5 9</b>	<b>5 9</b>
100	309	12 $\frac{1}{2}$	46	1 $\frac{1}{2}$	<b>6 9</b>	<b>7 6</b>	<b>7 6</b>	<b>7 6</b>

STANDARD CAPS: Centre Contact. The 60 and 100-watt sizes can be supplied if required with clip contact caps at 3d. per lamp extra.

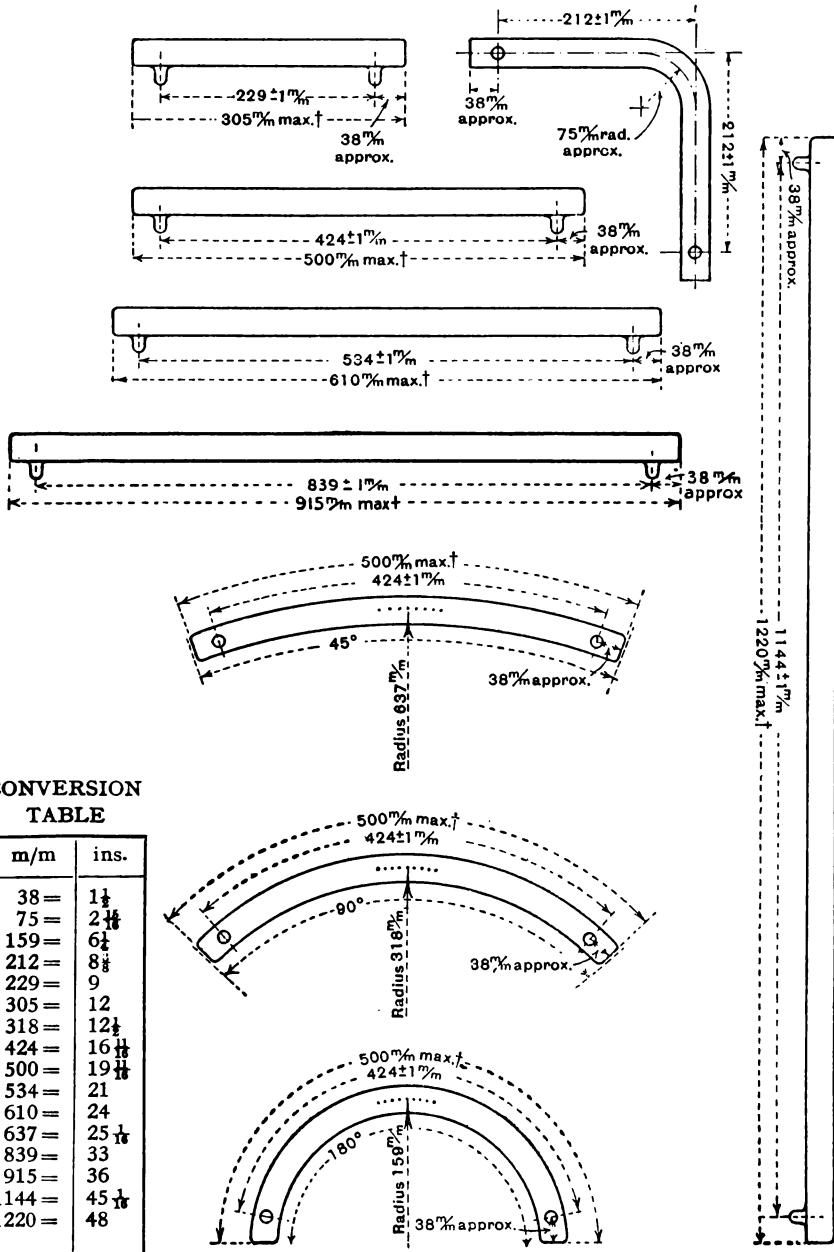
STANDARD COLOURS: Red, Orange, Yellow, Green, Blue, Flame, Pink, White.

For prices and particulars of trough reflectors for use with OSRAM "Striplite" lamps, see pages 674-678.

**S.E.C.**

# Osram ARCHITECTURAL LAMPS

## DIMENSIONS OF STANDARD TUBES WITH PEG TYPE CAPS



**CONVERSION  
TABLE**

m/m	ins.
38 =	$1\frac{1}{2}$
75 =	$2\frac{1}{8}$
159 =	$6\frac{1}{4}$
212 =	$8\frac{3}{8}$
229 =	9
305 =	12
318 =	$12\frac{1}{2}$
424 =	$16\frac{1}{8}$
500 =	$19\frac{1}{8}$
534 =	21
610 =	24
637 =	$25\frac{1}{8}$
839 =	33
915 =	36
1144 =	$45\frac{1}{8}$
1220 =	48

NOTE—↑ This dimension is subject to  $-4 \text{ m/m}$  tolerance.



# Osram ELECTRIC LAMPS

**FOR SPECIAL LIGHTING SERVICE  
GROUP I.**



100 watts WHITE OSRAM  
Gasfilled Lamp.

## WHITE & COLOUR SPRAYED LAMPS (GASFILLED)

OSRAM Colour Sprayed Lamps are standard lamps, the bulbs of which have been coated with a layer of unglazed china, which produces a very highly diffused light.

Standard colours :—

- 1.—White. 2.—Red. 3.—Pink. 4.—Orange. 5.—Yellow. 6.—Green.  
7.—Blue. 8.—Flame Tint.

They will be found an ideal means of obtaining coloured light in the Home, Theatre, Cinema, Ballroom, Hotel, Restaurant, Shop Window, etc.

Standard watts	Standard cap	VOLTAGE RANGES and PRICE PER LAMP	
		100-130 and 200-260 Volts	
		s.	d.
40	B.C.	<b>2</b>	<b>0</b>
60	B.C.	<b>2</b>	<b>0</b>
100	B.C.	<b>3</b>	<b>2</b>
150	B.C.	<b>4</b>	<b>10</b>
200	E.S.	<b>8</b>	<b>4</b>
†300	G.E.S.	<b>11</b>	<b>2</b>
†500	G.E.S.	<b>13</b>	<b>9</b>
†750	G.E.S.	<b>17</b>	<b>9</b>

The 100-watt to 750-watt sizes can also be supplied bowl sprayed white if required at the same prices as above.

† These wattages are supplied in white only.

*The dimensions of these lamps are the same as those of the corresponding clear lamps shown on pages 508 and 510.*

**S.E.C.****Osram ELECTRIC LAMPS****FOR SPECIAL LIGHTING SERVICE****GROUP I.****NATURAL COLOUR GLASS LAMPS  
(GASFILLED)****FOR THEATRE BATTENS AND CONCEALED COLOUR LIGHTING  
IN CINEMAS, ETC.**

Standard watts	Standard cap	COLOUR, VOLTAGE RANGES and PRICE PER LAMP			
		100-130 and 200-260 volts			
		Green, Blue or Amber		Ruby or other tints	
40	B.C.	s. <b>2</b>	d. <b>6</b>	s. <b>2</b>	d. <b>9</b>
60	„	<b>2</b>	<b>6</b>	<b>2</b>	<b>9</b>
100	„	<b>4</b>	<b>0</b>	<b>4</b>	<b>6</b>

CAUTION :—These lamps, being gasfilled, should not be used out-of-doors unless protected from the weather.

The dimensions of these lamps are the same as those of the corresponding clear lamps shown on page 508.

**DAYLIGHT BLUE AND NATURAL COLOUR  
GLASS FOR SIGNS AND DECORATIONS  
(VACUUM)**

Standard watts	Standard caps	COLOUR, VOLTAGE RANGES & PRICE PER LAMP					
		100-130 volts and 200-260 volts					
		Daylight Blue		Green, Blue, or Amber		Ruby or other Tints	
15	} B.C. or E.S. {	s. <b>2</b>	d. <b>6</b>	s. <b>2</b>	d. <b>7</b>	s. <b>2</b>	d. <b>10</b>
25		—	—	<b>2</b>	<b>6</b>	<b>2</b>	<b>9</b>
40		<b>2</b>	<b>6</b>	—	—	—	—

**DIMENSIONS.**

Standard watts	Length		Diameter	
	m/m	ins.	m/m	ins.
15	90±3.5	3½	44±2	1½
25	100±3.5	3⅞	60±1	2⅝
40	110±3.5	4⅝	60±1	2⅝

NON-STANDARD CAPS.—If specially ordered, sign lamps can be fitted with S.B.C., S.E.S., or S.C.C. caps at 1d. per lamp extra.

**Osram** **ELECTRIC LAMPS**  
**FOR SPECIAL LIGHTING SERVICE**  
**GROUP I.**



**SIGN AND DECORATION LAMPS**  
**(VACUUM)**

**INSIDE COLOUR SPRAYED**

This is the latest development in sign lamps. The colouring is sprayed on the inside of the bulb and is as permanent as natural coloured glass.

Standard watts	Standard caps	Length		Diameter		VOLTAGE RANGES and PRICE PER LAMP	
						100-130 and 200-260 volts	
15 40	} B.C. or E.S. {	m/m	ins.	m/m	ins.	s.	d.
		$90 \pm 3.5$	$3\frac{1}{2}$	$44 \pm 2$	$1\frac{1}{2}$	<b>2</b>	<b>1</b>
		$110 \pm 3.5$	$4\frac{1}{8}$	$60 \pm 1$	$2\frac{3}{8}$		

**STANDARD COLOURS** :—White, Red, Pink, Orange, Yellow, Green, Blue and Flame Tint.

These Lamps can be supplied outside colour sprayed at the same price if specially required. For Natural Colour Glass Lamps see page 522.

**CLEAR**

Standard watts	Standard caps	Length Tolerance $\pm 3.5$ m/m		Diameter Tolerance $\pm 2$ m/m		VOLTAGE RANGES and PRICE PER LAMP.			
						100-130 volts		200-260 volts	
10 15	} B.C. or E.S. {	m/m	ins.	m/m	ins.	s.	d.	s.	d.
		90	$3\frac{1}{2}$	44	$1\frac{1}{2}$	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>

**NON-STANDARD CAPS.**—If specially ordered, sign lamps can be fitted with S.B.C., S.E.S. or S.C.C. caps at 1d. per lamp extra.

**S.E.C.**

# Osram ELECTRIC LAMPS

**FOR SPECIAL LIGHTING SERVICE  
GROUP I.**



**OSRAM PYGMY  
Sign Lamp.**



**OSRAM Low Voltage  
Series Sign Lamp.**

## OSRAM PYGMY SIGN LAMP

This exceptionally small lamp is specially designed for signs, illuminated score boards, totalisators, indicators, berth lights, etc., and for outlining detail in signs with parallel burning lamps in place of series lamps. Burnt-out lamps can be located immediately, as when a lamp fails none of the other lamps in the circuit is affected.

Standard watts	Standard caps	Length Tolerance $\pm 3$ m/m	Diameter Tolerance $\pm 1$ m/m		VOLTAGE RANGES and PRICE PER LAMP			
					100-130 and 200-260 Volts			
					Clear		Colour Sprayed	
			m/m	ins.	s.	d.	s.	d.
15	*B.C., E.S. or S.E.S.	$\left. \begin{array}{l} \text{m/m   ins.} \\ \text{B.C. or E.S.} \\ 56   2\frac{1}{8} \\ \text{S.E.S.} \\ 59   2\frac{1}{8} \end{array} \right\}$	28	1 $\frac{1}{8}$	<b>2</b>	<b>0</b>	<b>2</b>	<b>1</b>

**STANDARD COLOURS.**—White, Red, Pink, Orange, Yellow, Green, Blue, and Flame Tint.

\*S.B.C. Caps can be fitted if required without extra charge.

## LOW VOLTAGE SERIES BURNING

This type of lamp is suitable for use in signs where space does not permit a standard sign lamp to be used, being specially suitable for outlining detail in large signs. Each lamp contains a short circuiting device which comes into action immediately the filament breaks and keeps the rest of the lamps in the series alight. This enables the broken lamp to be located at once. Supplied with clear bulb and also in the standard colours listed above.

Voltage	Watts	Amps.	Diam. of Bulb.	Standard Cap	PRICE per Lamp (Clear)		PRICE (Sprayed) All Colours	
14	7	0.5	$\left\{ \begin{array}{l} **26 \pm 1 \text{ m/m.} \\ \text{or } 38 \pm 2 \text{ m/m.} \end{array} \right\}$	S.E.S. or S.B.C.	s.	d.	s.	d.
					<b>1</b>	<b>3</b>	<b>1</b>	<b>5</b>

\*\* Unless otherwise stated 26 m/m bulbs will be supplied.

# Osram ELECTRIC LAMPS

**FOR SPECIAL LIGHTING SERVICE**

**GROUP I.**



OSRAM Traction Lamp.  
(Clear Vacuum).



PEARL OSRAM Traction Lamp.  
(Gasfilled).

## **SERIES TRACTION LAMPS**

**TRAMCAR, TRAIN LIGHTING, ETC.**

OSRAM Traction Lamps are specially designed to withstand the voltage fluctuations, rough usage, vibration and other severe conditions met with in traction service.

All OSRAM Traction Lamps are marked with their rated current in amperes and only those having the same current rating should be connected up to each other in series.

When ordering Traction Lamps for tram or train lighting please state: (i) maximum voltage; (ii) minimum voltage; (iii) nominal voltage; (iv) wattage of lamp; (v) number of lamps in series.

## **PEARL OSRAM—GASFILLED**

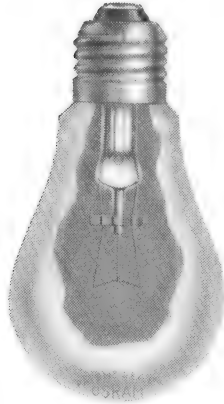
These lamps are internally frosted in the same manner as the standard PEARL OSRAM Lamps. They give a brighter and better light than the vacuum lamps and eliminate glare.

Ampere rating	Nominal watts	Length		Diameter		Standard voltages and PRICE PER LAMP	
		Tolerance $\pm 3.5$ m/m		Tolerance $\pm 1$ m/m		100, 110, 120, 130 volts	
0.35	40	m/m	ins.	m/m	ins.	s.	d.
0.52	60	110	$4\frac{1}{8}$	60	$2\frac{3}{8}$	<b>1</b>	<b>9</b>
		117.5	$4\frac{1}{8}$	65	$2\frac{3}{8}$		

## **CLEAR VACUUM (STRAIGHT FILAMENT).**

Ampere rating	Nominal watts	Length		Diameter		Standard voltages and PRICE PER LAMP	
		Tolerance $\pm 3.5$ m/m		Tolerance $\pm 1$ m/m		100, 110, 120, 130 volts	
0.27	30	m/m	ins.	m/m	ins.	s.	d.
0.35	40	110	$4\frac{1}{8}$	60	$2\frac{3}{8}$	<b>1</b>	<b>11</b>

Standard Caps :—B.C. or E.S.

**G.E.C.****Osram ELECTRIC LAMPS****FOR SPECIAL LIGHTING SERVICE****GROUP I.**

**PEARL OSRAM**  
Low Voltage, Long Series Traction Lamp.  
(Gasfilled.)

### **LOW VOLTAGE LONG SERIES TRACTION LAMPS (GASFILLED)**

These lamps are a new departure in Traction Lamps. They are made for connection in series of 10 to 15 lamps.

The small voltage drop across each lamp enables a thicker and stronger filament to be used, so that these lamps are even more robust than the ordinary traction type.

A further advantage is that each lamp is fitted with a short-circuiting device, which only comes into action when a lamp fails, so that the rest of the series is unaffected and the burnt-out lamp can be located at once.

These lamps are only supplied with E.S. caps, and should only be used with the G.E.C. Patent short-circuiting lampholders (see page 492), which enable lamps to be changed without putting out the rest of the lamps in the series.

Voltage	Nominal watts	Length		Diam.		Standard cap	PRICE PER LAMP			
		Tolerance ± 3.5 m/m		Tolerance ± 1 m/m			Pearl		Clear	
		m/m	ins.	m/m	ins.		s.	d.	s.	d.
40 50	40	110	4 $\frac{5}{16}$	60	2 $\frac{3}{8}$	E.S.	1	10	2	0
40 50		117.5	4 $\frac{5}{8}$	65	2 $\frac{1}{2}$					

### **PEARL OSRAM SHIP LAMPS**

The Pearl OSRAM Lamps shown on page 507 are recommended for ship lighting. The filaments of these lamps are tempered by a special heat treatment, which makes them capable of standing up to rough service. Their size and shape are suitable for the fittings usually installed on ships. The frosted bulbs eliminate all glare—a matter of great importance in ship lighting, where lamps have to be fixed in low positions and come into the line of vision. The frosting being on the inside of the bulb, the exterior is quite smooth and easily kept clean.

## “Osglim” ELECTRIC LAMPS FOR SPECIAL LIGHTING SERVICE

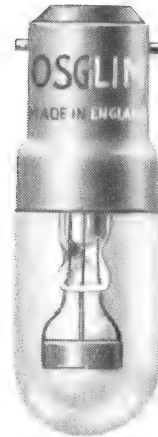
### GROUP I.



Osglim Lamp  
(Lighting Type).  
(Half size.)



Osglim Tubular  
Switch Indicator Lamp.  
(Full size.)



Osglim Small  
Indicator Lamp.  
(Full size.)

These Neon discharge lamps are manufactured in a number of different types, of which those in most general use are listed below. The lighting type is specially suitable for burning in positions where a dim illumination is constantly required, and is, therefore, an ideal night light. The large indicator lamp is designed for use with domestic appliances such as cookers, where it is desirable for the indicator to give a more conspicuous light than that given by the smaller type, and for the lamp to have a full size bayonet cap. Particulars of other types will be sent on application.

Type	Standard watts	Standard cap	Approx. dimensions				* PRICE PER LAMP	
			Length		Diameter			
			m/m	ins.	m/m	ins.	s.	d.
LIGHTING	5	B.C.	125	4 $\frac{1}{8}$	56	2 $\frac{1}{16}$	3	1
LETTER							3	4
FIGURE							3	4
PHOTOGRAPHIC (with Bulb varnished Ruby)							3	4
INDICATOR	0.5	B.C.	58	2 $\frac{1}{4}$	28	1 $\frac{1}{8}$	2	6
		S.B.C.	53	2 $\frac{1}{16}$	18	$\frac{3}{8}$	2	6

\* Voltages :—200/220, 230/240, 250 Volts.

### TUBULAR SWITCH INDICATOR LAMPS

These small indicator lamps are made for incorporation in switches, the lamp being wired so that it glows when the switch is in the “off” position. This makes it easy to find the switch in the dark, and is specially convenient in hotels, boarding houses, etc., where the rooms are chiefly used by people who are not familiar with the positions of the switches.

Standard voltages	Standard watts	Standard cap	Approx. dimensions				PRICE PER LAMP			
			Length		Diameter		Clear		Sprayed	
			m/m	ins.	m/m	ins.	s.	d.	s.	d.
200/220 230/240 250	0.2	S.E.S.	28	1 $\frac{1}{8}$	12	$\frac{1}{2}$	2	0	2	1

CAUTION : These switch lamps must only be used in series with at least 50,000 ohms resistance.

# S.E.C.

## "Robertson" ELECTRIC LAMPS

(CARBON FILAMENT)

GROUP I.



ROBERTSON Lamp.



### LIGHTING TYPE

These lamps are specially suitable for hand and inspection lamps and use as resistances.

ROBERTSON  
Flame-colour  
Radiator Lamp.

(approx.  $\frac{1}{4}$  full size).

Nominal candle power	Standard cap	Approx. total watts		Maximum dimensions				Voltage Ranges and PRICE PER LAMP	
		Voltage range		Length		Diam.		100-130 and 200-260 volts	
		100-130 Volts	200-260 Volts						
8 16 32	} BC. {	30 56 115	36 66 136	m/m 115 125	ins. 4 $\frac{1}{2}$ 4 $\frac{3}{4}$	m/m 65 70	ins. 2 $\frac{1}{2}$ 2 $\frac{3}{4}$	s. <b>1</b> <b>1</b>	d. <b>6</b> <b>6</b>

### RADIATOR LAMPS

(VERTICAL PATTERN.)

Robertson radiator lamps are supplied with flame-coloured bulbs, which give a glow very similar to that of a coal fire, and create an atmosphere of cosiness, comfort and warmth.

Standard watts	Standard cap	Approx. dimensions				Voltage range and PRICE PER LAMP	
		Length		Diameter		*100-250 Volts	
250	B.C.	m/m 285	ins. 11 $\frac{1}{4}$	m/m 57	ins. 2 $\frac{1}{4}$	s. <b>4</b>	d. <b>3</b>

Large bayonet caps (1 in. diameter) can be fitted if desired without extra charge.

\* STANDARD VOLTAGES: 100/110, 115/125, 200/220, 230/250.



# OSRAM ELECTRIC LAMPS

FOR SPECIAL LIGHTING SERVICE

GROUP I.



250 watts (Class A.1) OSRAM  
Gasfilled Projector Lamp.

## GASFILLED PROJECTOR LAMPS

Specially designed for accurate projection work.

### CLASS A.1 TUBULAR. GRID FILAMENT. VERTICAL BURNING.

These lamps have grid filaments and must be burned vertically, cap below. Tilting the lamp results in reduction of burning life. Suitable for OPTICAL LANTERNS, SPOTLIGHTS, PHOTOGRAPHIC ENLARGING, ADVERTISING PROJECTORS, HOME CINEMAS, ETC.

Voltage	Watts	Approx. dimensions			Approx. area of filament	Standard cap	PRICE PER LAMP	
		Max. overall length	Diam.	Filament centre to cap contact			s.	d.
30	100	140	32	75	6 × 6	E.S.	12	0
	250	140	63	75	8 × 8	E.S.	22	6
	600	240	63	120	13 × 12	G.E.S.	38	0
	900	240	63	120	11 × 12	G.E.S.	35	0
50	200	140	32	75	6 × 7	E.S.	21	0
	250	140	32	75	7 × 8	E.S.	22	6
	500	140	63	75	14 × 12	E.S. or G.E.S.	26	0
60	100	140	25	75	5 × 7	E.S.	12	6
110	500	140	32	80	* 9 × 9	Prefocus	42	6
	750	140	38	80	* 10 × 10	Prefocus	47	6
100 and 110	100	140	32	75	10 × 9	B.C. or E.S.	10	9
	250	140	32	75	11 × 10	Prefocus	22	0
	250	140	63	75	11 × 10	E.S.	20	0
	500	140	63	75	13 × 16	E.S. or G.E.S.	25	0
	1000	240	63	120	16 × 15	G.E.S.	32	0
200 to 260	100	140	32	75	8 × 13	B.C. or E.S.	10	9
	250	140	32	80	11 × 13	Prefocus	22	0
	250	140	63	75	11 × 13	E.S.	21	0
	500	140	63	75	15 × 18	E.S. or G.E.S.	25	0
	1000	240	63	120	17 × 20	G.E.S.	32	0

\* Biplane filament.

EXTRAS.—Prefocus caps, where not standard, 1/- each extra.

Prices for silvering on application.

CAUTION.—It is essential for projector lamps to be used in the position for which they are designed, and for the apparatus in which they are used to be well ventilated, otherwise their life may be seriously reduced.

**S.E.C.****Osram** **ELECTRIC LAMPS****FOR SPECIAL LIGHTING SERVICE****GROUP I.**

100 watts (Class A.2) OSRAM  
Gasfilled Projector Lamp.

**GASFILLED PROJECTOR LAMPS**

Specially designed for accurate projection work.

**CLASS A.2.****ROUND BULB. GRID FILAMENT. VERTICAL BURNING.**

The round bulb causes a small reduction in optical efficiency by keeping the reflector further away from the filament than in Class A.1, listed on page 529. These lamps may be tilted slightly without reducing their life. Suitable for STAGE LIMES, SPOTLIGHTS, ETC.

Voltage	Watts	Approx. dimensions			Approx. area of filament	Cap	PRICE PER LAMP	
		Max. overall length	Diam.	Filament centre to cap contact			s.	d.
100 and 110	100	125	75	80	10 × 13	E.S.	<b>10</b>	<b>9</b>
	250	170	90	115	11 × 10	E.S.	<b>20</b>	<b>0</b>
	500	260	120	190	13 × 16	G.E.S.	<b>28</b>	<b>6</b>
	1000	310	150	225	17 × 23	G.E.S.	<b>39</b>	<b>0</b>
	1500	340	170	250	22 × 32	G.E.S.	<b>52</b>	<b>6</b>
	2000	360	200	250	26 × 34	G.E.S.	<b>76</b>	<b>0</b>
	3000	405	240	275	30 × 35	G.E.S.	<b>105</b>	<b>0</b>
200 to 260	100	125	75	80	8 × 18	E.S.	<b>10</b>	<b>9</b>
	250	170	90	115	11 × 13	E.S.	<b>21</b>	<b>0</b>
	500	260	120	190	15 × 18	G.E.S.	<b>30</b>	<b>0</b>
	1000	310	150	225	20 × 36	G.E.S.	<b>40</b>	<b>0</b>
	1500	345	170	250	26 × 38	G.E.S.	<b>55</b>	<b>0</b>
	2000	360	200	250	22 × 35	G.E.S.	<b>86</b>	<b>0</b>
	3000	405	240	275	30 × 42	G.E.S.	<b>115</b>	<b>0</b>

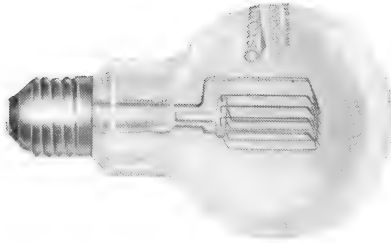
EXTRA for silvering, prices on application.

**CAUTION.**—It is essential for projector lamps to be used in the position for which they are designed, and for the apparatus in which they are used to be well ventilated, otherwise their life may be seriously reduced.

# Osram ELECTRIC LAMPS

**FOR SPECIAL LIGHTING SERVICE**

## GROUP I.



100 watts (Class A.3) OSRAM  
Gasfilled Projector Lamp.

## GASFILLED PROJECTOR LAMPS

### CLASS A.3.

**ROUND BULB. GRID FILAMENT. HORIZONTAL BURNING.**

Similar to Class A.2 (see previous page), but designed for horizontal burning. Suitable for Spotlights, Stage Limes, Medical Examination Tubes, Advertising Projectors, etc.

Voltage	Watts	Approx. Dimensions			Approx. area of filament	Cap	PRICE PER LAMP	
		Max. overall length	Diam.	Filament centre to cap contact			s.	d.
100 and 110	100	125	75	95	10 × 15	E.S.	<b>10</b>	<b>9</b>
	250	170	90	120	13 × 13	E.S.	<b>20</b>	<b>0</b>
	500	250	120	205	15 × 18	G.E.S.	<b>28</b>	<b>6</b>
	1000	310	150	240	17 × 23	G.E.S.	<b>39</b>	<b>0</b>
	1500	345	170	270	22 × 32	G.E.S.	<b>52</b>	<b>6</b>
200 to 260	100	125	75	95	10 × 13	E.S.	<b>10</b>	<b>9</b>
	250	170	90	120	14 × 15	F.S.	<b>21</b>	<b>0</b>
	500	250	120	205	20 × 15	G.E.S.	<b>30</b>	<b>0</b>
	1000	310	150	240	20 × 36	G.E.S.	<b>42</b>	<b>0</b>
	1500	345	170	270	26 × 38	G.E.S.	<b>57</b>	<b>6</b>

EXTRA for silvering, prices on application.

**Ventilation.**—Owing to concentration of filament and small size of bulb, it is important that the lantern should be ventilated, otherwise the life of the lamp may be seriously reduced.

**S.E.C.****Osram ELECTRIC LAMPS****FOR SPECIAL LIGHTING SERVICE****GROUP I.**

250 watts (Class B1) OSRAM  
Gasfilled Projector Lamp.

**GASFILLED PROJECTOR LAMPS****CLASS B1.****ROUND BULB. BUNCH FILAMENT. FLOODLIGHTING TYPE.**

These lamps may be used at any angle except within 45° of vertical (cap upwards). They are suitable for floodlighting and also for types of theatre spotlights in which ability to withstand rough usage is more important than high optical efficiency.

Voltage	Watts	Approx. Dimensions.			Approx. area of filament	Cap	PRICE PER LAMP	
		Max. Overall Length	Diam.	Filament centre to cap contact			s.	d.
100 to 130	100	m/m 140	m/m 80	m/m 75	m/m 10 × 11	E.S.	9	0
	250	133	95	75	8 × 11	E.S.	19	0
	500	190	130	115	11 × 14	G.E.S.	25	0
	1000	190	130	115	18 × 23	G.E.S.	32	0
200 to 260	100	140	80	75	10 × 10	E.S.	9	0
	250	133	95	75	11 × 10	E.S.	19	0
	500	190	130	115	15 × 15	G.E.S.	25	0
	1000	190	130	115	20 × 25	G.E.S.	32	0

**Burning Position.**—These lamps may be used at any angle, except within 45° from vertical, cap upwards.

**CLASS B2.****STANDARD GENERAL LIGHTING SERVICE BULB. BUNCH FILAMENT.**

Can be used in any position.

200 to 260	500 to 1000	275 to 309	130 to 150	202 to 225	15 × 20 to 25 × 25	G.E.S.	25	0
						G.E.S.	32	0

**Burning Position.**—These lamps can be burned at any angle.

**Ventilation.**—Owing to concentration of filament and small size of bulb, it is important that the lantern should be ventilated, otherwise the life of the lamp may be seriously reduced.

# Osram ELECTRIC LAMPS

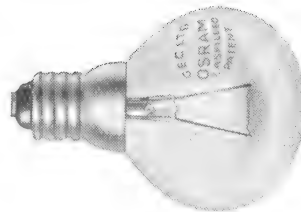
FOR SPECIAL LIGHTING SERVICE

GROUP I.



500 watts (Class E)  
OSRAM Gasfilled Epidiascope Lamp.

## GASFILLED PROJECTOR LAMPS



24 watts (Class F)  
OSRAM Gasfilled Projector Lamp.

### CLASS E. ROUND BULB. GRID FILAMENT. EPIDIASCOPE TYPE.

This class is specially designed for EPIDIASCOPE apparatus. It is suitable also for spotlight and shop window projectors, which have to be rotated through wide angles. They can be used safely in any position up to 45° from vertical cap downwards.

Voltage	Watts	Approx. dimensions.			Approx. area of filament	Cap	PRICE PER LAMP	
		Max. Overall length	Diam.	Filament centre to cap contact			s.	d.
100 and 110	500	m/m 160	m/m 100	m/m 85 and 100	m/m 13 × 16	E.S. or G.E.S.	<b>35</b>	<b>0</b>
200 to 260	500	160	100	85 and 100	15 × 18	E.S. or G.E.S.	<b>37</b>	<b>6</b>

### CLASS F. EXTRA LOW VOLTAGE.

These lamps, though of low wattage, give a very intense, concentrated light. They are specially suitable for all purposes where small dimensions in the apparatus employed is of primary importance.

The 8 and 24 watts lamps have straight filaments, the 48 and 100 watts grid filaments and the 300 watts straight filaments. The 48, 100 and 300 watts lamps are designed for vertical burning.

		m/m	m/m	m/m	m/m		s.	d.
4	8	60	38	50	*2	S.E.S.	<b>3</b>	<b>9</b>
6	24	60	38	50	*4	E.S.	<b>4</b>	<b>3</b>
12	24	60	38	50	*6	S.E.S.	<b>3</b>	<b>9</b>
12	48	70	50	40	4 × 3	E.S.	<b>3</b>	<b>9</b>
12	100	140	32	75	5 × 6	E.S.	<b>10</b>	<b>9</b>
12	300	140	63	75	*18	G.E.S.	<b>32</b>	<b>6</b>

\* Approx. length of filament.

EXTRA for silvering, prices on application.

**S.E.C.**

# Osram ELECTRIC LAMPS

**FOR SPECIAL LIGHTING SERVICE**

**GROUP I.**



32 watts (Class G)  
OSRAM  
Exciter Lamp (Gasfilled).

## **GASFILLED PROJECTOR LAMPS**

### **CLASS G. EXCITER LAMPS FOR SOUND FILM APPARATUS.**

These lamps are intended for use in conjunction with Photo-cells for sound reproduction and similar purposes.

Of tubular bulb shape they are designed for burning vertically, cap down, and it is essential they should be used in this position only.

Owing to concentration of filament and small size of bulb it is important that the lantern in which this lamp is used should be ventilated. Otherwise the life of the lamp may be seriously reduced.

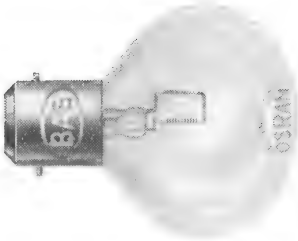
Code numbers	Voltage	Watts	Apparatus for which suitable	Cap	PRICE PER LAMP	
8450	8	32	British Acoustic	A.S.C.C.	s. 5	d. 6
8456	8	32	B.T.P.	"	5	6
85450	8.5	34	—	"	6	0
105475	10	50	R.C.A.	A.S.C.C.	7	6
107550	10	75	—	"	7	6

### **DIMENSIONS.**

Code numbers	Length	Diameter	Filament centre to cap central contact plate
	Tolerance ± 2 m/m	Tolerance ± 1 m/m	Tolerance ± 1.5 m/m
8450	m/m 75	m/m 26	m/m 50
8456	75	26	56
85450	75	26	50
105475	75	26	47.5
107550	75	26	50

# Osram AUTOMOBILE LAMPS

## GROUP II.



OSRAM **(BAS)** Type  
Headlight Lamp  
(Gasfilled).



OSRAM **(BAS)** Type  
Side, Tail and Dash Lamp  
(Gasfilled).

### BAS TYPES

Standardised in accordance with Specification No. 6R of the Society of Motor Manufacturers and Traders (I.A.E. Data Sheet 104R).

All BAS Lamps are marked **(BAS)**

### HEADLIGHT (GASFILLED)

Volts	Watts	Amps.	Diam. of bulb	BRITISH CAP			AMERICAN CAP	
				Catalogue No.	BAS No.	PRICE PER LAMP	Catalogue No.	PRICE PER LAMP
6	12	2	m/m	OS <b>7000</b>	BAS 1	s. d. <b>2 6</b>	OS <b>7017</b>	s. d. <b>2 7</b>
† 6	18	3	38	OS <b>7002</b>	BAS 2	<b>2 3</b>	OS <b>7018</b>	<b>2 4</b>
†12	24	2	38	OS <b>7010</b>	BAS 3	<b>2 3</b>	—	—
†*12	36	3	38	OS <b>7012</b>	BAS 4	<b>2 6</b>	—	—

\* Supplied with 3-pin C.C. caps at **2/7½** each, or hollow tubular caps for old type Fiat Cars at **2/10** each, or with Bosch type caps for new type Fiat Cars at **2/9** each.

† For lamps of these ratings with V filaments see page 536.

### SIDE, TAIL AND DASH (GASFILLED)

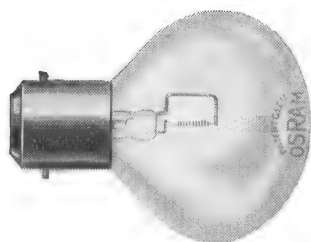
Volts	Watts	Amps.	Diam. of bulb	BRITISH CAP			AMERICAN CAP	
				Catalogue No.	BAS No.	PRICE PER LAMP	Catalogue No.	PRICE PER LAMP
6	3	0.5	19	OS <b>7123</b>	BAS 8	s. d. <b>1 3</b>	OS <b>7114</b>	s. d. <b>1 4</b>
6	6	1.0	19	OS <b>7144</b>	BAS 9		OS <b>7184</b>	
12	6	0.5	19	OS <b>7168</b>	BAS 10		—	

For additional sizes see pages 536 and 540.

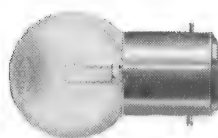
**S.E.C.**

# Osram AUTOMOBILE LAMPS

## GROUP II.



Headlight Lamp  
(Gasfilled).



Side, Tail and Dash Lamp  
(Gasfilled).

## HEADLIGHT

### ADDITIONAL SIZES (GASFILLED).

Volts	Watts	Amps.	Diam. of bulb	BRITISH CAP		AMERICAN CAP	
				Catalogue No.	PRICE PER LAMP	Catalogue No.	PRICE PER LAMP
			m/m		s. d.		s. d.
4	6	1.5	38	OS <b>6995</b>	<b>2 9</b>	OS <b>7011</b>	<b>2 9</b>
4	8	2	38	OS <b>4800</b>	<b>2 9</b>	—	—
6	4.5	0.75	38	OS <b>6450</b>	<b>2 9</b>	—	—
*6	4.5	0.75	38	OS <b>6451</b>	<b>3 6</b>	—	—
6	6	1	38	OS <b>8020</b>	<b>2 9</b>	OS <b>8021</b>	<b>2 9</b>
*6	18	3	38	OS <b>6180</b>	<b>2 9</b>	—	—
†6	24	4	38	OS <b>7004</b>	<b>2 6</b>	OS <b>7019</b>	<b>2 6</b>
6	30	5	38	OS <b>8000</b>	<b>4 0</b>	OS <b>8001</b>	<b>4 0</b>
*6	36	6	38	OS <b>6366</b>	<b>3 6</b>	OS <b>6377</b>	<b>3 6</b>
8	16	2	38	—	—	OS <b>7021</b>	<b>3 6</b>
*12	24	2	38	OS <b>1224</b>	<b>2 9</b>	—	—
*12	36	3	38	OS <b>1236</b>	<b>3 0</b>	—	—
12	48	4	38	OS <b>7014</b>	<b>4 0</b>	—	—
12	60	5	50	OS <b>7998</b>	<b>4 6</b>	—	—
<b>BLUE BULB HEADLIGHT LAMPS (GASFILLED).</b>							
6	24	4	38	OS <b>8050</b>	<b>3 2</b>	OS <b>8052</b>	<b>3 2</b>
12	36	3	38	OS <b>8051</b>	<b>3 2</b>	—	—

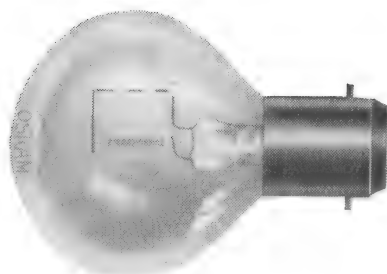
\* "V" Filament.

† Supplied with 3-pin C.C. caps at **2/7½** each.



# **Osram** AUTOMOBILE LAMPS

## GROUP II.



OSRAM Cadmium Yellow Lamp (Gasfilled).

## ANTI-DAZZLE HEADLIGHT LAMPS

### CADMIUM YELLOW HEADLIGHT LAMPS (GASFILLED)

These are Standard OSRAM Headlight Lamps, with natural colour yellow glass bulbs. They are especially recommended for driving in rain or fog as they reduce back glare to a minimum and are far more efficient than fog caps, screens, etc. There is no need to change them in clear weather, as in yellow light visibility is, if anything, better than in white light.

WITH S.B.C. and S.C.C. CAPS FOR BRITISH AND AMERICAN CARS.

Volts	Watts	Amps.	Diam. of bulb	Catalogue No.	Cap	PRICE PER LAMP	
6	24	4	m/m	OS <b>7004</b> Y	S.B.C. or S.C.C.	s.	d.
	30	5	38	OS <b>8000</b> Y	Do.	<b>3</b>	<b>2</b>
	*24 & 24	4 & 4	38	OS <b>6240</b> Y	S.B.C.	<b>5</b>	<b>0</b>
	†24 & 18	4 & 3	38	OS <b>8010</b> LY	Bosch	<b>3</b>	<b>9</b>
						<b>4</b>	<b>4</b>
12	36	3	38	OS <b>7012</b> Y	S.B.C. or S.C.C.	<b>3</b>	<b>2</b>
	48	4	50	OS <b>7014</b> Y	Do.	<b>5</b>	<b>0</b>
	†36 & 24	3 & 2	38	OS <b>8015</b> LY	Bosch	<b>4</b>	<b>4</b>
**13.5	36	3	38	OS <b>136</b> Y	S.B.C. or S.C.C.	<b>3</b>	<b>7</b>
	†36 & 24	3 & 2	38	OS <b>1336</b> LY	Bosch	<b>5</b>	<b>0</b>

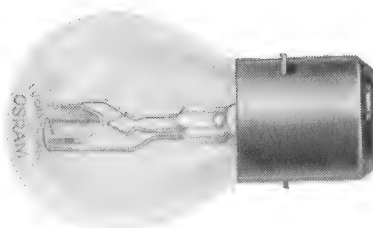
\* Bi-focal, British Car Type.      † Lucas-Graves Type.

\*\* For commercial vehicles and buses.

**S.E.C.**

# Osram AUTOMOBILE LAMPS

## GROUP II.



OSRAM Lucas-Graves Patent  
Anti-Dazzle Headlamp (Gasfilled)  
with Bosch Cap.

## ANTI-DAZZLE HEADLIGHT LAMPS

### LUCAS—GRAVES PATENT

#### (GASFILLED)

British Patent No. 210105.

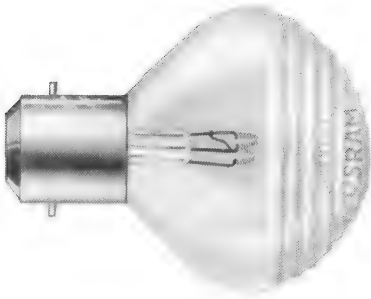
Irish Free State Patent No. 210105.

These are twin filament lamps, fitted with a special form of internal reflector. When switched on to the driving filament a full, brilliant beam is obtained. When the anti-dazzle filament is switched on, the top half of the beam is cut off and the driving light is concentrated on the road.

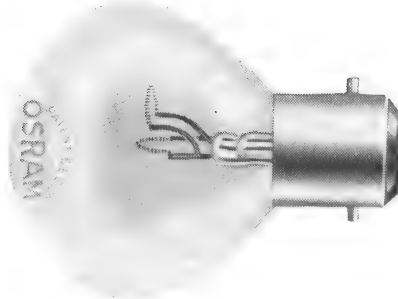
Volts	Watts	Amps.	Diam. of bulb	Standard finish	BOSCH CAP	
					Catalogue No.	PRICE PER LAMP
6	12 & 12	2 & 2	m/m 40	Clear	OS <b>6121</b> L	s. d.  <b>3 6</b>
	18 & 18	3 & 3	40		OS <b>8008</b> L	
	24 & 18	4 & 3	40		OS <b>8010</b> L	
12	24 & 24	2 & 2	40	Satin- etched	OS <b>8014</b> L	
12	36 & 24	3 & 2	40		OS <b>8015</b> L	

# Osram AUTOMOBILE LAMPS

## GROUP II.



OSRAM American Corrugated Bulb  
Bi-Focal Lamp.



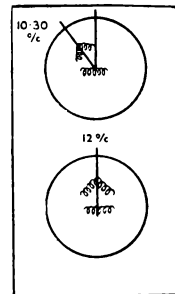
OSRAM British Motor Cycle  
Bi-Focal Lamp.

## ANTI-DAZZLE HEADLIGHT LAMPS

### BI-FOCAL (GASFILLED).

These lamps have twin V-shaped filaments of equal wattage located one above the other. Normally only the lower filament is alight. By switching over to the upper filament the beam of light is "dipped." Bi-focal lamps are made in three types : (i) American type, with corrugated bulbs and the auxiliary filament in the 12 o'clock position. (ii) British car type with the auxiliary filament in the 10.30 position. The main or lower filament produces the normal driving beam, but the upper filament gives a beam which is both dipped and twisted towards the near side of the road. (iii) British motor cycle type, with the auxiliary filament in the 12 o'clock position, which produces a dipped beam.

Type	Volts	Watts	Amps.	Catalogue No.	PRICE PER LAMP	
American corrugated bulb	6	18 & 18	3 & 3	OS7146	s.	d.
		24 & 18	4 & 3	OS6418	3	3
		24 & 24	4 & 4	OS7147	3	6
		36 & 24	6 & 4	OS6324	4	6
British car type anti-dazzle filament located at 10.30 position	6	24 & 24	4 & 4	OS6240	3	0
	12	24 & 24	2 & 2	OS1240	4	3
	12	36 & 36	3 & 3	OS1360	5	0
British motor cycle type anti-dazzle filament located at 12 o'clock position	4	12 & 12	3 & 3	OS4122	4	0
	6	24 & 24	4 & 4	OS6242	3	0
	6	12 & 12	2 & 2	OS6122B	3	6



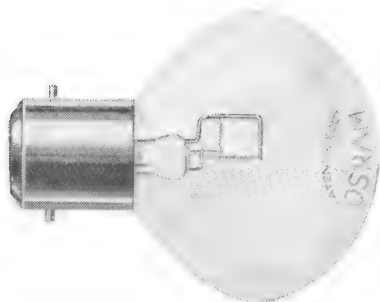
Filament Positions  
End view of Bulb.

Diameter of bulb 38 m/m.

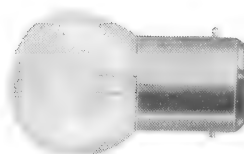
**S.E.C.**

# Osram AUTOMOBILE LAMPS

## GROUP II.



OSRAM Twin-Filament  
Head and Side Lamp (Gasfilled).



OSRAM Side,  
Tail and Dash Lamp.

## TWIN-FILAMENT COMBINED HEAD & SIDELIGHT (GASFILLED)

Volts	Watts	Amps.	Diam. of bulb	BRITISH CAP		AMERICAN CAP	
				Catalogue No.	PRICE PER LAMP	Catalogue No.	PRICE PER LAMP
			m/m		s. d.		s. d.
6	12 & 3	2 & .5	38	OS <b>7099</b>	} <b>3 6</b> {	OS <b>7139</b>	} <b>3 6</b> {
6	18 & 3	3 & .5	38	OS <b>6183</b>		OS <b>6184</b>	
12	24 & 6	2 & .5	38	OS <b>7101</b>		—	
12	36 & 6	3 & .5	38	OS <b>7097</b>		—	

## SIDE, TAIL & DASH

### ADDITIONAL SIZES.

Volts	Watts	Amps.	Diam. of bulb	BRITISH CAP		AMERICAN CAP	
				Catalogue No.	PRICE PER LAMP	Catalogue No.	PRICE PER LAMP
			m/m		s. d.		s. d.
*3	2	0.66	19	—	} <b>1 8</b> {	OS <b>7110</b>	} <b>1 8</b> {
4	3	0.75	19	OS <b>7128</b>		OS <b>7171</b>	
8	4	0.5	19	OS <b>7125</b>		OS <b>7116</b>	
12	4	0.33	19	OS <b>7126</b>		—	

\* Used two in series on 6/7 volts on some American cars. One lamp acts as tail light, the other as an indicator lamp on dashboard.

# Osram AUTOMOBILE LAMPS

## GROUP II.



OSRAM Spotlight (Gasfilled).



OSRAM Festoon Lamp  
(17 m/m × 45 m/m).



OSRAM Festoon Lamp  
(8 m/m × 38 m/m).

## SPOTLIGHT (GASFILLED)

Volts	Watts	Amps.	Diam. of bulb	BRITISH CAP		AMERICAN CAP	
				Catalogue No.	PRICE PER LAMP	Catalogue No.	PRICE PER LAMP
6	12	2	m/m 38	OS <b>7613</b>	s. d. <b>3 0</b>	OS <b>7616</b>	s. d. <b>3 0</b>
12	12	1	38	OS <b>7614</b>	<b>3 3</b>	—	—

## FESTOON OR TRAFFICATOR

Catalogue No.	Volts	Watts	Amps.	Max. dimensions		PRICE PER LAMP	
				Overall length	Diameter		
OS <b>7268</b>	6	6	1.0	} m/m	m/m	s. d.	
OS <b>7282</b>	12	6	0.5		45	17	<b>2 0</b>
OS <b>6338</b>	6	3	0.5		38	8	<b>2 0</b>
OS <b>638</b>	6	6	1.0		38	11	<b>2 0</b>
OS <b>1233</b>	12	3	0.25		38	8	<b>2 0</b>
OS <b>1238</b>	12	6	0.5	38	11	<b>2 0</b>	

**S.E.C.**

# Osram AUTOMOBILE LAMPS

## GROUP II.



OSRAM Tubular Lamp  
with Fiat Cap  
(Old Type).



OSRAM Indicator  
Lamp.



OSRAM Tubular Lamp  
with Bosch Cap.

## COIL IGNITION INDICATOR

### WITH M.E.S. CAPS

Catalogue No.	Volts.	Watts	Amps.	Diam. of bulb	PRICE PER LAMP	
					s.	d.
*OS <b>7577</b>	2	1.5	0.75	15	<b>1</b>	<b>10</b>
OS <b>7582</b>	4	2	0.5	15	<b>1</b>	<b>10</b>
OS <b>7584</b>	6	3	0.5	15	<b>1</b>	<b>8</b>
OS <b>7588</b>	8	1.6	0.2	15	<b>1</b>	<b>8</b>
OS <b>7592</b>	12	2.4	0.2	15	<b>1</b>	<b>8</b>
OS <b>7954</b>	16	3.0	0.2	15	<b>1</b>	<b>8</b>

\* This lamp is also suitable for some types of police and mine inspection lamps.  
For 2.5 and 3.5 volt indicator lamps for use in series with a resistance, see page 545.

## TUBULAR

Volts	Watts	Amps.	BRITISH CAP S.B.C. or S.C.C.		BOSCH CAP		FIAT CAP (OLD TYPE)	
			Cat. No.	PRICE PER LAMP	Cat. No.	PRICE PER LAMP	Cat. No.	PRICE PER LAMP
12	6	0.5	OS <b>7224</b>	s. <b>2</b> d. <b>9</b>	OS <b>7032</b>	s. <b>3</b> d. <b>0</b>	OS <b>7016</b>	s. <b>3</b> d. <b>1</b>

# Osram AUTOMOBILE LAMPS

## GROUP II.



Pearl OSRAM Motor Bus Lamp  
(Gasfilled).

### MOTOR BUS AND COMMERCIAL VEHICLE LAMPS, 12 & 13.5 VOLTS FOR USE ON CONTROLLED VOLTAGE LIGHTING SETS. HEADLIGHT (GASFILLED).

Volts	Watts	Dia. of bulb	Type	Cap	PRICE PER LAMP		
		m/m			s.	d.	
13.5	24	38	} Single filament, clear .. Ditto, cadmium yellow	{ B.C., S.B.C. or Bosch S.B.C. or S.C.C.			
13.5	36	38			<b>2</b>	<b>10</b>	
15.5	36	38			<b>3</b>	<b>7</b>	
13.5	36 & 24	40	{ Lucas-Graves, satin etched Ditto, cadmium yellow }	Bosch {	<b>4</b>	<b>0</b>	
					<b>5</b>	<b>0</b>	
INTERIOR LIGHTING (GASFILLED).							
Volts	Watts	Amps.	Diam. of bulb	PRICE PER LAMP			
				Pearl or Clear		Opal	
				s.	d.	s.	d.
12	10	0.85	{ 38 m/m 50 m/m 38 m/m 50 m/m	<b>2</b>	<b>6</b>	<b>2</b>	<b>10</b>
				<b>2</b>	<b>3</b>	<b>2</b>	<b>6</b>
12	12	1		<b>2</b>	<b>3</b>	<b>2</b>	<b>6</b>
				<b>2</b>	<b>1</b>	<b>2</b>	<b>4</b>
INTERIOR LIGHTING, VACUUM (CLEAR ONLY).							
				s.	d.		
12	12	1	38 m/m	<b>1</b>	<b>9</b>		
REAR, WING and DESTINATION BOARD LAMPS (CLEAR ONLY).							
				Cat. No.	s.	d.	
12	6	0.5	26 m/m	OS <b>7214</b>	<b>1</b>	<b>8</b>	

**S.E.C.**

# **Osram** AUTOMOBILE LAMPS

GROUP II.

**MOTOR BUS LAMPS, 24-VOLT****HEADLIGHTS (Gasfilled).**

Volts	Watts	Diam. of bulb	Cap	PRICE PER LAMP			
				Clear /			
24	24	38 m/m	S.B.C.	s.	d.		
	36	38 m/m	S.B.C.	<b>3</b>	<b>0</b>		
				<b>3</b>	<b>6</b>		
<b>SIDELIGHTS</b>							
24	6	23	S.B.C. or B.C.	<b>2</b>	<b>3</b>		
<b>INTERIOR LIGHTING.</b>							
				Clear or Pearl		Opal	
				s.	d.	s.	d.
24	15	50	B.C.	<b>2</b>	<b>1</b>	<b>2</b>	<b>4</b>
24	15	38	B.C.	<b>2</b>	<b>4</b>	<b>2</b>	<b>7</b>
24	12	50	B.C.	<b>2</b>	<b>6</b>	<b>2</b>	<b>10</b>
24	12	38	B.C.	<b>2</b>	<b>9</b>	<b>3</b>	<b>1</b>
24	20	50	B.C.	<b>2</b>	<b>1</b>	<b>2</b>	<b>4</b>
24	20	38	B.C.	<b>2</b>	<b>4</b>	<b>2</b>	<b>7</b>

**MOTORISTS' SPARE LAMP CASES**

OSRAM Motorists' Spare Lamp Case.

These cases have been designed for the convenience of motorists, who should be persuaded always to carry spare lamps on their cars. Lamps can be carried in these cases without the slightest risk of breakage.

**Capacity :—Seven Lamps (2 head, 2 side or tail, 2 festoon and 1 ignition indicator lamp).**

Price (without lamps)

**3/- each**



# Osram ELECTRIC LAMPS

**FOR SPECIAL LIGHTING SERVICE  
GROUP III.**



OSRAM Flashlight Lamp.  
Flat Bulb. Clear.



OSRAM Flashlight Lamp.  
Flat Bulb. Half Opal.



OSRAM Flashlight Bulb.  
Focussing Type.

## FLASHLIGHT LAMPS NON-FOCUSSING TYPE.

Flat Bulb with M.E.S. Caps. (Packed in boxes of 50).

Volts	Amps.	Diameter m/m	Shape of Bulb	PRICE PER LAMP	
				Clear	Half Opal
1.25	.20	12	Flat	2½d.	—
2.0	.30	12	"	2½d.	—
2.0	.60	15	"	2½d.	—
*2.2	.25	12	"	—	2½d.
*2.2	.29	12	"	2½d.	2½d.
†2.5	.20	12	"	2½d.	2½d.
3.5	.30	12 & 15	"	2½d.	2½d.

\* Specially designed for use with small capacity 2-cell batteries.

† This amp and the 3.5 volt .15-amp. coil filament lamp listed below are suitable for coil ignition indicators in series with an appropriate resistance.

## FOCUSSING TYPE. (Packed in boxes of 50).

For Spotlight Torches, Pilot Lamps for wireless receivers, Battery Cycle Lamps, etc.

Volts	Amps.	Diam. m/m	Shape of Bulb	PRICE PER LAMP	
				Clear only	
2.2	.29	12	Round	}	3d.
2.5	.20	12	..		
<b>2.5</b>	<b>.3</b>	<b>12</b>	..		
*3.5	.15	12	..		
<b>3.5</b>	<b>.3</b>	<b>12</b>	..		
4.0	.3	12	..		
4.0	.5	15	..		
4.5	.3	15	..		
SPOTLIGHT TYPE.					
**6.2	.3	15	Round	}	8d.
***6.5	.3	12	..		

\* Recommended for fuse bulbs on wireless receivers.

\*\* Specially suitable for pilot lamps on wireless receivers, in which case they should be used on a 4-volt circuit, and also for series burning with .2 amp. Universal valves.

\*\*\* Recommended for series burning with .3 amp. Universal valves.

SPECIAL PRICES WILL BE QUOTED FOR QUANTITIES OF 100 AND OVER OF ONE TYPE AND RATING OF ANY OF THE ABOVE LAMPS.

**S.E.C.**

# Osram ELECTRIC LAMPS

**FOR SPECIAL LIGHTING SERVICE**

**GROUP V.**



OSRAM Miners' Lamp, with  
taper peg cap. (Full size).



Pearl OSRAM Standard Miners'  
Lamp S 7301  
With S.E.S. cap (E14). (Full size).

## BULBS FOR MINERS' HAND AND CAP LAMPS

FOR ACID ACCUMULATORS.						
Cat. No.	Volts	Amps.	Diameter	Standard cap	PRICE PER LAMP	
OS <b>7300</b>	2	0.85	26 m/m	S.E.S. (No. 258)	s. <b>1</b>	d. <b>6</b>
OS <b>7307</b>	2	0.85	26 m/m	Taper peg	<b>1</b>	<b>6</b>
OS <b>7301</b>	2	1.0	26 m/m	S.E.S. (No. E14)	<b>1</b>	<b>5</b>
OS <b>2118</b>	<b>*2</b>	<b>1.0</b>	<b>18 m/m</b>	<b>M.E.S. (No. 10)</b>	<b>1</b>	<b>6</b>
OS <b>4618</b>	<b>*4 (b)</b>	0.55	18 m/m	M.E.S. (No. 10)	<b>1</b>	<b>8</b>
OS <b>4726</b>	<b>4</b>	<b>0.75</b>	<b>26 m/m</b>	<b>S.E.S. (E14)</b>	<b>1</b>	<b>6</b>
OS <b>4126</b>	<b>4</b>	<b>1.0</b>	<b>26 m/m</b>	<b>S.E.S. (E14)</b>	<b>1</b>	<b>8</b>
FOR ALKALINE ACCUMULATORS.						
OS <b>7320</b>	<b>2.5</b>	<b>1.5</b>	<b>25 m/m Pear</b>	<b>S.C.C. (No. 953)</b>	<b>1</b>	<b>6</b>
OS <b>7315</b>	<b>2.5</b>	<b>1.5</b>	<b>25 m/m Pear</b>	<b>S.E.S. (E14)</b>	<b>1</b>	<b>6</b>
OS <b>7321</b>	2.5 (b)	1.75	25 m/m Pear	S.C.C. (No. 953)	<b>1</b>	<b>8</b>
OS <b>7314</b>	2.5 (b)	1.75	25 m/m Pear	S.E.S. (E14)	<b>1</b>	<b>8</b>

\* For Cap Lamps

The bulbs printed in heavy type have been "approved" by H.M. Mines Dept.  
under Category 1 and those (b) under Category 2.

**Osram** **ELECTRIC LAMPS**  
**FOR SPECIAL LIGHTING SERVICE**  
**GROUP VI.**



OSRAM OLIVE Shape  
 Decoration Lamp.  
 14v. 7w. M.E.S. cap.  
 (Full size).



OSRAM CONE Shape  
 Decoration Lamp.  
 19v. 3w. M.E.S. cap.  
 (Full size).

**OLIVE SHAPE LAMP DECORATION OUTFITS**

Complete with Coloured OSRAM Lamps,\* Flexible, Fixing Beads, Holders and Adaptor for connecting to any B.C. lampholder.

\* Standard colours : Red, Orange, Yellow, Green, Blue and White.

They are ideal for decorating Christmas Trees, Ballrooms, Restaurants, Shop Windows, etc., and for all indoor festivities, their decorative effect being increased greatly by the addition of the artificial flowers and Autumn leaves listed on page 548.

These outfits are supplied in two forms :—

- I. Catalogue Nos. 1—5. Strips for hanging in festoons or decorating Christmas Trees.
- II. Mounted on asbestos papier mâché (fireproof) plaques, forming complete decorative units.

**FESTOON OUTFITS**

Voltage	No. of lamps in series	No. of spare lamps	Type of lamp	Shape	Catalogue No.	Price of complete Outfit	
100–125	8	1	14v. 7w.	Olive	1	s. <b>12</b>	d. <b>6</b>
200–210	15	3	14v. 7w.	Olive	2	}	<b>19 6</b>
220–230	17	1	14v. 7w.	Olive	3		
240–250	18	0	14v. 7w.	Olive	4		
200–250	12	0	19v. 3w.	Cone	5	<b>10</b>	<b>6</b>

Spare Lamps :—Olive shape **1/-** each. Cone shape **9d.** each.

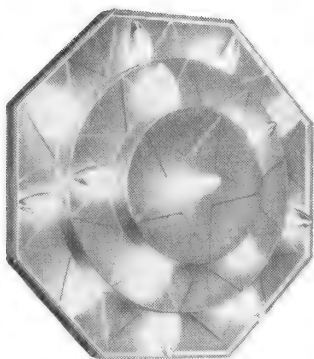
Each lamp in the festoon outfits Nos. 1—4 contains a short circuit device in the cap which comes into action immediately a filament breaks and keeps the rest of the lamps alight. This also enables the faulty lamp to be located at once.

**Spacing :** The lamps in outfits Nos. 1—4 are wired 2ft. apart. Those in outfit No. 5 are 1ft. apart. By doubling the festoon the spacing between the lamps will be halved.

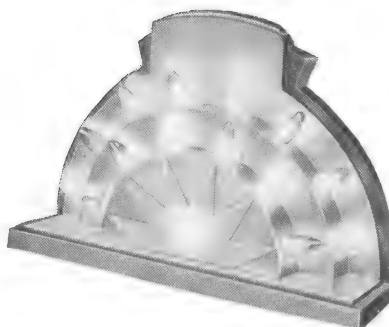
**S.E.C.**

# Osram ELECTRIC LAMPS

## GROUP VI.



No. 1 Unit  
Octagonal Shield.

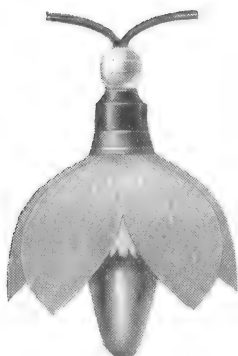


No. 2 Unit  
Rainbow Stand.

## OLIVE SHAPE LAMP DECORATION UNITS

*Standard Voltages	Particulars of Lamps	Price of Complete Outfit No. 1 or No. 2 Unit	
200—210 220—230 240—250	18 14-volt 7-watt OSRAM Olive Shape decoration lamps, connected in series. Standard colours : Red, Orange, Yellow, Green, Blue and White.	s.	d.
		<b>25</b>	<b>0</b>

\* Other voltages made up to order at the same price.  
Spare lamps **1/-** each.



## ARTIFICIAL AUTUMN LEAVES

Price per yard, **8d.**; per dozen yards, **7/-**.

## ARTIFICIAL FLOWERS

These flowers greatly enhance the appearance of the OSRAM OLIVE shaped lamps shown on page 547. They are made in different tints to match the colours of the lamps.

### PRICES.

<b>*Dahlias.</b>		<b>Water Lilies.</b>	
Set of 8 Shades, per set	<b>3/6</b>	per set	<b>2/9</b>
Set of 18     ,,     ,,	<b>7/-</b>	,,	<b>5/6</b>

Water Lily.

\* The Dahlias can also be supplied with a silver finish at the same price as the coloured shades.

Full particulars and details of OSRAM Decoration Outfits and mounted units will be forwarded on application.

**S.E.C.**

# **Osram** ELECTRIC LAMPS

**FOR SPECIAL LIGHTING SERVICE**



OSRAM Ultra-Violet Lamp.

## **OSRAM ULTRA-VIOLET LAMP**

The Osram ultra-violet lamp comprises a tungsten filament with an arc in mercury vapour between cylindrical tungsten electrodes. The greater part of the light and infra-red rays is radiated from these incandescent electrodes, and the ultra-violet rays radiate from the arc stream between them. The filament ensures automatic striking of the arc.

The lamp's radiation has a close affinity to that of sunlight, and as such can be used, when concentrated on the human body, for purposes of a general tonic or for the treatment of specific diseases.

The lamp is designed for use on alternating current only, in conjunction with transformers, on the following voltage ranges 100/105, 200/220, 230/250 (50 cycles).

Standard Watts	Standard Cap	Approximate Dimensions				PRICE PER LAMP		
		Length		Diameter		£	s.	d.
		m/m	ins.	m/m	ins.			
400	E.S.	70	2 $\frac{3}{4}$	165	6 $\frac{1}{2}$	<b>2</b>	<b>10</b>	<b>0</b>

Particulars of Osram Ultra-violet lamp standard for use with above lamp will be forwarded on request.



## **"OSIRA" ELECTRIC DISCHARGE LAMPS**

### **GROUP IX.**

**Made in England by the G.E.C. under one or more of the following British Patents:—344497, 384067, 391971, 397162, 405605 and other British Patents and pending Patent applications.**



#### **A G.E.C. Invention.**

The Osira Lamp was invented and developed in the Research Laboratories of the General Electric Co., Ltd. at Wembley, Middlesex, and was first put into operation for street lighting on June 22nd, 1932, in East Lane, Wembley. This was the first public lighting installation in the world in which this type of lamp was used.

#### **Principle of Operation.**

Osira electric discharge lamps constitute the most important recent advance in the technique of light production. The light is produced not because the gas or vapour is very hot but by the discharge of electricity through a mixture of gases which includes mercury vapour at a higher pressure than has been practical hitherto.

#### **"OSIRA" LAMP.**

#### **Efficiency.**

Osira lamps give  $2\frac{1}{2}$  times as much light as ordinary gasfilled tungsten filament lamps of equivalent wattage; for instance the 400 watt Osira lamp gives practically the same light as a 1,000 watt Osram lamp. Thus by using these lamps the illumination can practically be doubled without adding to the amount of electricity consumed.

#### **Electricity Supply.**

Osira Lamps can only be used on alternating current supplies of voltages from 200 to 260 volts.

#### **Choke Colls.**

The characteristics of OSIRA lamps are similar to those of an electric arc *i.e.*, they have a "negative" resistance and consequently they must always be used in conjunction with a specially designed choke.

#### **Power Factor.**

The power factor of lamp and G.E.C. choke is about 0.6 but by suitable condensers this can be raised to between 0.8 and 0.9.

#### **Switching.**

When first switched on Osira lamps pass about twice their normal burning current and take about five minutes to attain full brightness.

If the electricity supply is interrupted the lamp will have to cool down before it will light up again which it will do automatically if the switch is left on.

# **“OSIRA” ELECTRIC DISCHARGE LAMPS—CONT.**

## **Fuses.**

The provision of separate fuses for each lamp is recommended.

## **Wiring.**

Osira lamps are arranged for parallel burning. Each lamp must have a G.E.C. choke coil in series with it, preferably on the phase side of the lamp.

If a condenser is needed for power factor correction it should be connected across the mains on the mains side of the choke.

## **Burning Position.**

The standard lamps are made for burning in the cap-up position only, but if specially ordered, lamps can be supplied for burning cap-down.

## **Running Characteristics and Dimensions.**

Lamp Rating Volts	Approx. starting current at 230 volts		Average current when burning at full brightness at 230 volts	
	Without Condenser	With Condenser	Without Condenser	With Condenser
250	amps. $4\frac{1}{2}$	amps. $3\frac{1}{2}$	amps. 2	amps. 1.3
400	$5\frac{1}{2}$	4	3.2	2.2

Standard Watts	LIGHT OUT-PUT AND DIMENSIONS.						
	Approx. light output in Lumens	Overall length		Overall diameter		Length from cap centre contact to end of light column	
		m/m	ins.	m/m	ins.	m/m	ins.
250	9000	$290\pm 10$	$11\frac{3}{8}$	$50\pm 2$	$1\frac{11}{16}$	$110\pm 5$	$4\frac{1}{8}$
400	17000	$325\pm 15$	$12\frac{3}{4}$	$50\pm 2$	$1\frac{11}{16}$	$110\pm 5$	$4\frac{1}{8}$

## **PRICES.**

Standard Voltages	Standard Watts	Standard Cap	PRICE PER LAMP	
200/210, 220 230, 240/250	250 400	G.E.S. G.E.S.	s. <b>37</b> <b>40</b>	d. <b>6</b> <b>0</b>

For details of Chokes and Condensers for use with Osira lamps see page 557.

*For lighting fittings for Osira lamps see pages 555-556.*

## "OSIRA" FLOODLIGHTING LAMPS GROUP IX.



"Osira" Floodlighting Lamp.

The special advantages which these lamps possess over other forms of floodlighting lamps are :—

1. **Economy.** The light generated by them is itself coloured, thus obviating the use of coloured media which invariably absorb a large percentage of the light given by ordinary light sources.
2. **Brilliance.** The light given by them is more brilliant and the colours more vivid than that obtained by other methods.

STANDARD COLOURS :—Red, Light Blue, Dark Blue, Light Green,  
Dark Green and Yellow (Sodium).

ESSENTIAL ACCESSORIES :—Tesla Coil, Filament Transformer  
and Choke Coil.

## "OSIRA" FLOODLIGHTING LAMP

### PRICES.

Colour	Approx. Watts	Voltage	PRICE PER LAMP		
			£	s.	d.
Red .. ..	470	200/250	3	0	0
Light blue .. ..	350				
Dark blue .. ..	350				
Light green .. ..	350				
Dark green .. ..	350	200/250	3	10	0
Sodium yellow ..	100				

### DIMENSIONS.

Watts.	Length		Diameter		Length of luminous column	
	m/m	ins.	m/m	ins.	m/m	ins.
470	1180±19	46 $\frac{3}{4}$	37	1 $\frac{7}{16}$	865	34
350	1180±19	46 $\frac{3}{4}$	26	1	865	34
100	420	16 $\frac{1}{2}$	46	1 $\frac{3}{4}$	230	9

Prices and particulars of Tesla Coils, Chokes and Filament Transformers will be forwarded on application.

*For Floodlighting Equipment for use with Osira lamps see page 638.*



## **MODERN INDUSTRIAL LIGHTING**

**T**HE important part which good lighting plays in modern industry is to-day so fully proved by practical experience that no enterprising industrialist can afford to instal anything less than the best if he wishes to maintain or improve his position in the face of competition.

It is now an established fact that good lighting means :—

1. **Increased factory output** to a value out of all proportion to the extra cost involved.
2. **Reduction of wastage and spoiled material.**
3. **Reduction of accidents to staff and workpeople.**
4. **Increased comfort of employees** with resultant improvement in physical and mental well-being.

For many years it was considered axiomatic that production must be less and wastage greater during the hours of darkness. To-day it is established that with good artificial light results in both these directions can be obtained which are an improvement on daylight results.

## **G.E.C. ILLUMINATING ENGINEERING SERVICE**

The G.E.C. is in an exceptional position to give its customers first class service in all matters relating to industrial lighting. The essentials of good industrial lighting are, firstly, correctly designed lighting equipment, and, secondly, the capacity to use such equipment to the best advantage. To provide these two essentials for its customers, the Company has established an Illumination Research Section at its Research Laboratories at Wembley, and employs a staff of expert illuminating engineers both in London and at its branch establishments. The Laboratories dealing with illumination research are the best equipped for their particular purpose of any in the British Empire, and all reflectors and light controlling equipment are thoroughly tested at these Laboratories before being put on the market to ensure their efficiency, reliability and suitability. Not only are all matters relating to optical design carried out by the Laboratory staff but tests under varying conditions to ensure reliability in service are a regular feature. Within this category, for example, comes the regular testing of reflecting equipment under a combination of heat and sea spray conditions such as will ensure satisfactory performance under all climatic conditions.

To enable customers to take full advantage of this technical service, the illuminating engineering staff in London and throughout the country is prepared, without obligation, to advise on all industrial lighting problems, including such matters as the lighting intensity required for any particular process, the correct type of reflector to use, and the mounting height and spacing at which such reflectors should be installed. Such advice will be found invaluable in the case of unusual lighting problems such as artificial lighting for various sports, the underwater lighting of swimming pools, cascades, etc., and problems pertaining to the use of artificial daylight.

## **THE PRINCIPLES OF GOOD ARTIFICIAL LIGHTING**

To perform its function satisfactorily, any industrial lighting installation must conform to the following requirements :—

1. Provide adequate intensity of illumination on the horizontal plane.
2. Provide adequate illumination on the vertical plane.
3. Avoid harsh shadows while providing sufficient directional intensity to ensure definition.
4. Avoid glare either direct from the fitting or reflected from the work.
5. Provide even illumination over the whole area so that the eye will not constantly have to adjust itself to varying brightness.

The relative importance of the above requirements will vary according to circumstances. For instance, in some processes illumination on a horizontal plane only will be required, while in others illumination on the vertical will be all important. When dealing with polished materials the question of reflected glare assumes an importance which is entirely absent where matt materials are involved.

The illuminating engineering staff of the Company has these essentials ever present in mind, while the wide range of equipment at its disposal allows it to offer an ideal combination for almost any requirement.

### **“OSIRA” ELECTRIC DISCHARGE LAMPS**

OSIRA electric discharge lamps for industrial lighting purposes are dealt with in pages 550 to 552. The advantages of such lamps are by no means confined to their high efficiency. Not only does the electric discharge lamp give  $2\frac{1}{2}$  times as much light as can be obtained from an incandescent lamp of equivalent wattage, but the colour and quality of the bluish white light is of material advantage in a vast majority of industrial lighting applications.

The shape and size of the light source has involved the design of special reflectors to take the fullest possible advantage of the light available. Such reflectors are of two general types, one with a “Saafux” easy-wiring detachable top for normal interior use, and one with a special anti-condensation cast top and heat resisting well glass for installation in circumstances where moisture in any form may be present.

In each of these types is a range of three reflectors for each size of lamp available. One design corresponds to the standard dispersive reflector for general lighting use at a spacing height ratio of  $1\frac{1}{2}$  to 1 and with direct light cut-off at  $70^\circ$ . Another is designed for side illumination corresponding to the parabolic angle reflector. The third is for distributive use where a wide spread of light is required without any cut-off below the horizontal.

OSIRA lamps are suitable for use on A.C. supplies only and each lamp requires a choke in circuit with it. The power factor is approximately 0.6 but can be raised to between 0.8 and 0.9 by the use of a suitable condenser.

As stated in the previous page, the Research Laboratories of the Company are responsible for the optical design of all illumination equipment, and in conjunction with the designers at the Head Office and Works the housings are evolved and manufactured under the Company's control, in England, entirely of British materials.

**G.E.C.**

# INDUSTRIAL LIGHTING FITTINGS FOR "OSIRA" LAMPS

Reflectors for EXTERIOR use, or in positions where moisture is present.



**SPECIFICATION.**—Spun steel reflector, vitreous enamelled green outside, white inside, mounted on cast iron top, embodying special anti-condensation device, supplied complete with G.E.S. holder and clear heat-resisting well glass. Standard tapping 1-in. gas for 400 watt range,  $\frac{3}{4}$ -in. gas for 250 watt range.

Catalogue No.	Type	Diam.	For "Osira" lamp	Price each		
		ins.	watts	£	s.	d.
F <b>16010</b>	Without reflector	—	400	<b>2</b>	<b>2</b>	<b>0</b>
F <b>16020</b>	"	—	250	<b>1</b>	<b>19</b>	<b>0</b>
F <b>16011</b>	Dispersive "	19	400	<b>3</b>	<b>7</b>	<b>6</b>
F <b>16021</b>	"	14	250	<b>3</b>	<b>2</b>	<b>6</b>
F <b>16012</b>	Parabolic angle "	18	400	<b>3</b>	<b>7</b>	<b>6</b>
F <b>16022</b>	"	14	250	<b>3</b>	<b>2</b>	<b>6</b>
F <b>16013</b>	Distributing "	21	400	<b>3</b>	<b>3</b>	<b>0</b>
F <b>16023</b>	"	16	250	<b>2</b>	<b>18</b>	<b>0</b>

Frosted well glasses can be supplied instead of clear at 3/- each extra.

Spare clear well glasses F **16010/1/2/3**, 18/- each. Felt washers F **16010**, 6/- doz.

Spare clear well glasses F **16020/1/2/3**, 16/6 each. Felt washers F **16020**, 4/6 doz.

# S.E.C.

## INDUSTRIAL LIGHTING FITTINGS

### FOR "OSIRA" LAMPS

Reflectors for INTERIOR use.



F 16016/26



F 16014/24



F 16015/25

**SPECIFICATION.**—Spun steel reflector, vitreous enamelled green outside, white inside, fitted with "Saaflux" easy wiring top and supplied complete with G.E.S. holder. Standard tapping  $\frac{3}{4}$ -in. E.T.

Catalogue No.	Type	Diam.		For "Osira" lamp	Price each		
		ins.	watts		£	s.	d.
F 16014	Dispersive	19	400		2	7	6
F 16024	"	14	250		2	2	6
F 16015	Parabolic angle	18	400		2	10	0
F 16025	"	14	250		2	5	0
F 16016	Distributing	21	400		2	5	0
F 16026	"	16	250		2	0	0

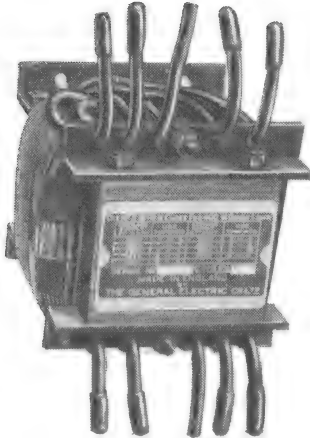
Prices do not include lamps.

# S.E.C.

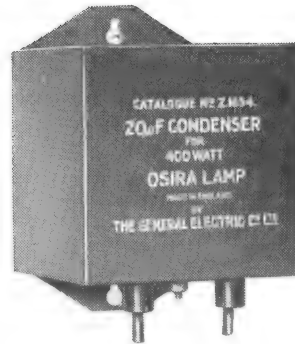
## TAPPED CHOKE COILS & CONDENSERS

### FOR "OSIRA" LAMPS

#### CHOKE



#### CONDENSER



F **16017** Choke for 400 (L. or H.)\* watt "Osira" lamps.

F **16027** Choke for 250 (L. or H.)\* watt "Osira" lamps.

\*"L." Chokes are required for use on nominal voltages of 200 to 220 volts.

"H" Chokes are required for use on nominal voltages of 230 to 250 volts.

F **16018** 20 m.f.d. Condenser for use with one 400 watt "Osira" lamp.

F **16028** 15 m.f.d. Condenser for use with one 250 watt "Osira" lamp.

F **17509** 80 m.f.d. Condenser for use with 4-400 or 5-250 watt "Osira" lamps.

Catalogue No.	Description	Height	Width	Depth	Weight	Price each		
		ins.	ins.	ins.	lbs.	£	s.	d.
F <b>16017</b>	(L. or H.) Choke ..	6½	5½	6½	25	2	14	0
F <b>16027</b>	" " ..	3½	5½	3½	12½	2	10	0
F <b>16018</b>	Condenser ..	6½	4½	5	7½	1	5	0
F <b>16028</b>	" ..	6½	4	4	4½	1	2	0
F <b>17509</b>	" ..	12	6½	6½	24½	3	18	0

## DISPERSIVE REFLECTORS FOR DIRECT LIGHTING

To ensure the necessary high efficiency in factory lighting being secured without undue glare or unevenness of lighting, the British Standards Institution, in Standard Specification No. 232 (1926), laid down certain requirements for the purpose of protecting the user as regards:

1. Overall efficiency.
2. Elimination of glare.
3. Mechanical strength and quality of reflected surface.

The various types of G.E.C. Dispersive Reflectors shown in the following pages are guaranteed to conform in every respect to the above specification.

G.E.C. Dispersive Reflectors are designed for installation at a spacing height ratio not exceeding  $1\frac{1}{2}$  to 1, *i.e.*, the distance between reflectors should not be more than  $1\frac{1}{2}$  times the height of each unit above the working plane. If spaced at this ratio, practically even intensity will be obtained over the whole area and objectionable shadows will be eliminated.

As an alternative unit to the vitreous enamelled dispersive reflector, the G.E.C. has designed a special high efficiency mirror glass unit which, while conforming to the requirements of the above specification as regards cut-off and consequent elimination of glare, permits a far wider spacing without unevenness of lighting, and at the same time its high efficiency conduces to a reduction of overall wattage. While, therefore, the fitting itself is slightly more expensive than the vitreous enamelled dispersive reflector, a reduction in the number of points and consequent wiring charges cancels this increased outlay per unit and the reduction in wattage is reflected in permanently reduced running costs.

These reflectors can be spaced at a spacing height ratio up to  $2\frac{1}{2}$  to 1, and in addition to their efficiency for ordinary general lighting, they are particularly suitable where a high degree of illumination is required on vertical or nearly vertical surfaces.

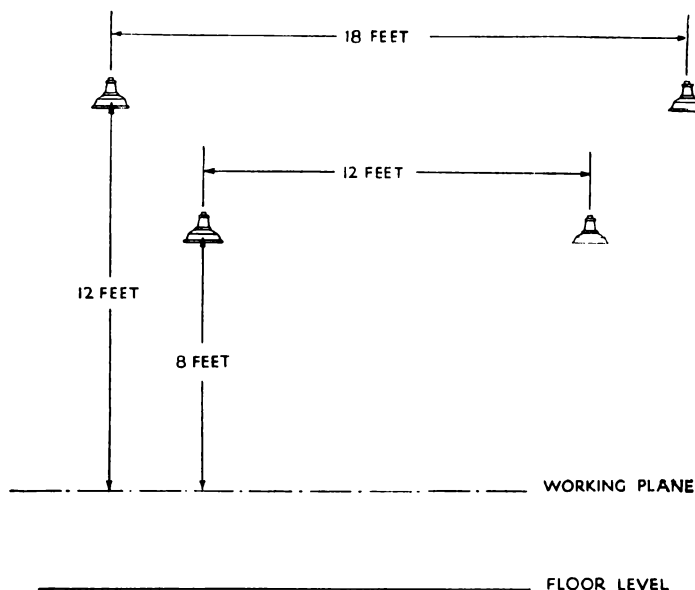


Diagram showing installation of G.E.C. dispersive reflectors.

# INDUSTRIAL LIGHTING FITTINGS

## WITH

### "GECORAY" REFLECTORS



**F 4711/5**

"Gecoray" industrial reflectors are the latest development for factory and allied lighting. While conforming to the angle of cut-off specified by the British Standards Specification for factory lighting, the mirrored glass reflector provides appreciably higher overall efficiency than is obtainable with vitreous enamel. Furthermore, the special contour of the reflector enables the units to be spaced further apart for any given working height than is obtainable with the orthodox type of factory lighting unit, without affecting the evenness of illumination.

As a result of these advantages it is possible : (1) To save installation charges, owing to the reduced number of reflectors required by wider spacing ; and (2) to save running cost, owing to the lower wattage needed to give any required foot-candle intensity.

**SPECIFICATION.**—Copper housing, with detachable cast iron top. "Gecoray" silvered mirror reflector. A special satin finish "Gecoray" silvered mirror reflector for providing additional diffusion can be supplied to order.

Cat. No.	Dimensions		Weight complete	Standard tapping	Osram lamps recommended	Price each			If with satin finish "Gecoray" reflector
	Diam.	Height							
	ins.	ins.	lbs.		watts.	£	s.	d.	£ s. d.
F 4707	10	10	4½	¾" E.T.	100	2	5	0	2 7 6
F 4709	10	10	4½	¾" E.T.	150	2	5	0	2 7 6
F 4711	10	10	4½	¾" E.T.	200	2	5	0	2 7 6
F 4715	16	20	18½	¾" gas	300 or 500	5	5	0	5 9 0

# G.E.C.

## ENAMELLED STEEL DISPERSIVE REFLECTORS

(Patents Nos. 210864/24 254132/26.)

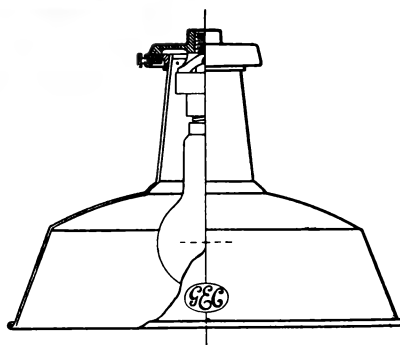
**SPACING HEIGHT RATIO,  $1\frac{1}{2}$  to 1.**



**F 4701**



**F 4731/41**



**F 4731/41**  
Sectional view.

The sectional view of **F 4731/41** G.E.C. reflectors illustrated above shows the method of removing the reflector from the detachable top. The single screw is loosened, and the entire reflector can be removed in a few seconds. Ventilation slots are provided in the cast ring to which the removable cast iron top is clamped.

The lampholder need not be unscrewed for wiring purposes.

**F 4701** is supplied with  $1\frac{1}{8}$ -in. hole for attaching to standard shade carrier lampholder.

**Finish.**—Highest grade vitreous enamel ; White inside and green outside.

Standard tapping  $\frac{3}{8}$ -in. E.T.

Cat. No.	Holder	Dimensions		Osram lamps recommended	Weight	Price each		
		Diam.	Height					
F <b>4701</b>	$1\frac{1}{8}$ -in. hole	ins.	ins.	watts	lbs.	£	s.	d.
F <b>4731</b>	B.C.	12	$6\frac{3}{4}$	* 60	$1\frac{3}{4}$		6	6
F <b>4733</b>	E.S.	14	$10\frac{1}{2}$	*100	$4\frac{1}{4}$		18	6
F <b>4735</b>	E.S.	14	$10\frac{1}{2}$	†150	$4\frac{1}{4}$		19	6
F <b>4737</b>	G.E.S.	16	12	†200	$6\frac{1}{2}$	1	1	6
F <b>4739</b>	G.E.S.	18	$14\frac{1}{2}$	†300	$7\frac{3}{4}$	1	13	0
F <b>4740</b>	G.E.S.	18	15	†500	8	1	13	0
F <b>4741</b>	G.E.S.	20	$16\frac{1}{2}$	750 or 1000	$8\frac{1}{4}$	1	18	6
		20	$17\frac{1}{4}$	1000 or 1500	$8\frac{1}{4}$	1	18	6

\* For 60 and 100 watt sizes use Pearl Osram lamps.

† For 150 to 500 watts, Bowl-sprayed White Osram lamps are recommended.

**The above prices, except F 4701, include lampholders, but not lamps.**



## **"SAAFLUX" SYSTEM REFLECTORS**

Gas-filled lamps have since their introduction steadily increased in efficiency, and this improvement has brought with it a corresponding increase in filament temperatures. In latter years this high temperature has, in certain cases, given rise to trouble due to the insulation of the cables perishing and causing short circuits, etc.

The many advantages of reflectors which are detachable from their flanges for wiring, cleaning, etc., are now generally recognised and SAAFLUX provides a system which includes all these advantages and at the same time protects the leads from overheating.

In SAAFLUX, the reflector *and* lamp are detachable from the flange as one complete unit, thereby considerably simplifying wiring, cleaning, lamp renewals, etc. The temperature of the cables is in general kept down below the maximum for safety specified in the I.E.E. Wiring Regulations, by an ingenious yet simple method of heat dissipation. Leading-in wires are taken direct to a terminal block in the top flange, *before* the reflector and lamp are fitted. The combined reflector and lamp, as one unit, is easily fitted to the top flange containing terminal block, without unnecessary screws, etc. A positive method of suspension is assured with no risk of falling.

A supplementary reflector is fitted round the neck of the lamp, which provides more useful light (by utilising that which is normally lost up the neck) and makes it impossible for the lamp cap to be touched when it is making contact with the lampholder, thus minimising risk of shock. SAAFLUX is earthed right through from flange to supplementary reflector, this, in common with all other SAAFLUX features, complying with Home Office requirements.

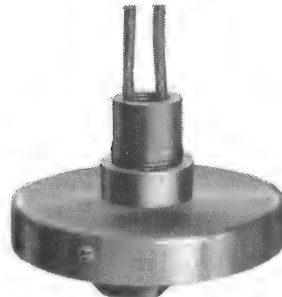
Briefly SAAFLUX saves time and installation costs, is fool-proof and shockproof, simplifies installation, provides easy cleaning and lamp and reflector renewals, and ensures **SAFETY and MORE LIGHT.**



Easily Detachable.



Reflector and  
lamp cleaned.



Cool Wires.  
Safe Insulation.

# S.E.C.

## "R.L.M." REFLECTORS

SPACING HEIGHT RATIO,  $1\frac{1}{2}$  to 1.



**F 16111/9**  
Saaflux Type



**F 16121/9**  
Flange Type

**SPECIFICATION.**—Reflectors are constructed of heavy-gauge special steel and finished with Crysteel Vitreous Enamel, green outside and white inside, in three types (a) SAAFLUX for lamps from 60 to 1500 watts, complete with lampholders; (b) Flange type for use with lamps from 60 to 1500 watts, complete with skirted all-porcelain B.C., E.S., or G.E.S. lampholders—standard tapping  $\frac{1}{2}$ -in. E.T.; (c) with  $1\frac{1}{8}$ -in. hole (no lampholders) for lamps from 40 to 150 watts. The full range is made in accordance with British Standard Specification No. 232.

### SAAFLUX TYPE.

### FLANGE TYPE.

Cat. No.	Diam.	Holder	Price each		Cat. No.	Diam.	Holder	Price each		Osram lamps recommended	Standard quantity
	ins.		s.	d.		ins.		s.	d.	watts	
F 16111	12	B.C.	15	3	F 16121	12	B.C.	13	9	60-75	18
F 16112	14	B.C.	18	6	F 16122	14	B.C.	16	9	100	12
F 16113	14	B.C.	18	6	F 16123	14	B.C.	16	9	150	12
F 16114	14	E.S.	19	6	F 16124	14	E.S.	17	9	150	12
F 16115	16	E.S.	21	6	F 16125	16	E.S.	19	6	200	12
F 16116	18	G.E.S.	33	0	F 16126	18	G.E.S.	30	0	300	9
F 16117	18	G.E.S.	33	0	F 16127	18	G.E.S.	30	0	500	9
F 16118	20	G.E.S.	38	6	F 16128	20	G.E.S.	35	0	750-1000	6
F 16119	20	G.E.S.	38	6	F 16129	20	G.E.S.	35	0	1500	6

Prices include lampholders.



**F 16131/8**

1 $\frac{1}{8}$ -in. hole type					With attachment for connecting to B.C. Holder without use of shade carrier ring.				
Cat. No.	Diam.	Osram lamps recommended	Standard quantity	Price each	Cat. No.	Diam.	Osram lamps recommended	Standard quantity	Price each
	ins.	watts				ins.	watts		
F 16131	10	40	36	5 0	F 16135	10	40	36	5 6
F 16132	12	60/75	24	6 6	F 16136	12	60/75	24	7 0
F 16133	14	100	18	9 9	F 16137	14	100	18	10 3
F 16134	14	150	18	10 3	F 16138	14	150	18	10 9

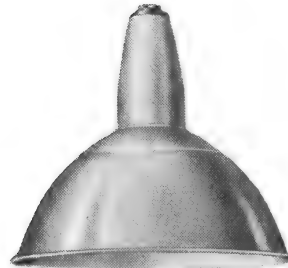
Prices do not include lampholders.

# CONCENTRATING REFLECTORS

**SPACING HEIGHT RATIO, 1 to 1.**



**F 16141/9**  
Saaflux type



**F 16151/9**  
Flange type

**APPLICATION.**—In the larger sizes, these units are used for lofty mounting since their light is mainly projected in a downward direction. Locations for which the larger Concentrating Reflectors are recommended, include **FOUNDRIES, POWER STATIONS, EXHIBITIONS, GYMNASIA, RAILWAY TERMINI**, etc.

The smaller Concentrating Reflectors are used for locations where local high illumination with absence of filament glare is called for, such as **FITTERS' BENCH VICES, SMALL ASSEMBLY BENCHES**, etc.

**SPECIFICATION.**—Reflectors are constructed of heavy gauge steel and finished with Crysteel Vitreous Enamel, white inside and outside, in two types (a) **SAAFLUX** for lamps from 60 to 1,500 watts, complete with lampholders; and (b) **Flange type** for use with lamps from 40 to 1,500 watts, complete with skirted all-porcelain B.C., E.S. or G.E.S. Lampholders.

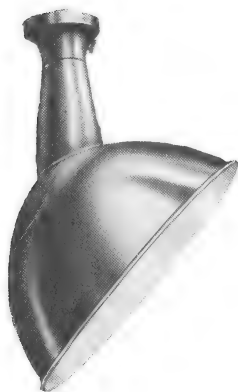
Standard tapping— $\frac{1}{4}$  in. E.T.

## SAAFLUX TYPE.

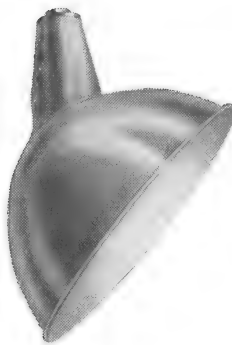
## FLANGE TYPE.

Cat. No.	Diam.	Holder	Price each	Cat. No.	Diam.	Holder	Price each	Osram lamps recommended	Standard quantity
	ins.		s. d.		ins.		s. d.	watts	
F 16141	9	B.C.	14 0	F 16151	9	B.C.	12 6	60-75	18
F 16142	12	B.C.	18 0	F 16152	12	B.C.	16 6	100	12
F 16143	12	B.C.	18 0	F 16153	12	B.C.	16 6	150	12
F 16144	12	E.S.	19 0	F 16154	12	E.S.	17 6	150	12
F 16145	15	E.S.	22 6	F 16155	15	E.S.	20 0	200	9
F 16146	15	G.E.S.	32 6	F 16156	15	G.E.S.	27 6	300	9
F 16147	18	G.E.S.	36 0	F 16157	18	G.E.S.	32 6	500	6
F 16148	18	G.E.S.	42 0	F 16158	18	G.E.S.	37 6	750-1000	6
F 16149	18	G.E.S.	42 0	F 16159	18	G.E.S.	37 6	1500	6

**Prices include lampholders.**

**S.E.C.****PARABOLIC ANGLE REFLECTORS****SPACING EQUAL TO PROJECTION.**

**F 16161/9**  
Saaflux type



**F 16171/9**  
Flange type

**APPLICATION.**—For the illumination of vertical surfaces where light is required up to or above the level of the reflectors. Particularly suitable for use outside Shop premises to direct strong illumination on the goods and pavement immediately beneath (see also Elliptical Angle Reflectors, page 566).

**SPECIFICATION.**—Reflectors are constructed of heavy gauge steel and finished with Crysteel Vitreous Enamel, white inside and outside, in two types (a) SAAFLUX for lamps from 60 to 1,500 watts, complete with lampholders; and (b) Flange type for use with lamps from 40 to 1,500 watts, complete with skirted all-porcelain B.C., E.S. or G.E.S. Lampholders.  
Standard tapping— $\frac{3}{4}$ -in. E.T.

**SAAFLUX TYPE.****FLANGE TYPE.**

Cat. No.	Diam.	Holder	Price each		Cat. No.	Diam.	Holder	Price each		Osram lamps recommended	Standard quantity
	ins.		s.	d.		ins.		s.	d.	watts	
<b>F 16161</b>	9	B.C.	<b>14</b>	<b>0</b>	<b>F 16171</b>	9	B.C.	<b>12</b>	<b>6</b>	60-75	18
<b>F 16162</b>	12	B.C.	<b>18</b>	<b>0</b>	<b>F 16172</b>	12	B.C.	<b>16</b>	<b>6</b>	100	12
<b>F 16163</b>	12	B.C.	<b>18</b>	<b>0</b>	<b>F 16173</b>	12	B.C.	<b>16</b>	<b>6</b>	150	12
<b>F 16164</b>	12	E.S.	<b>19</b>	<b>0</b>	<b>F 16174</b>	12	E.S.	<b>17</b>	<b>6</b>	150	12
<b>F 16165</b>	15	E.S.	<b>25</b>	<b>0</b>	<b>F 16175</b>	15	E.S.	<b>22</b>	<b>6</b>	200	9
<b>F 16166</b>	15	G.E.S.	<b>30</b>	<b>0</b>	<b>F 16176</b>	15	G.E.S.	<b>27</b>	<b>6</b>	300	9
<b>F 16167</b>	18	G.E.S.	<b>42</b>	<b>0</b>	<b>F 16177</b>	18	G.E.S.	<b>37</b>	<b>6</b>	500	9
<b>F 16168</b>	18	G.E.S.	<b>45</b>	<b>0</b>	<b>F 16178</b>	18	G.E.S.	<b>42</b>	<b>0</b>	750-1000	9
<b>F 16169</b>	18	G.E.S.	<b>45</b>	<b>0</b>	<b>F 16179</b>	18	G.E.S.	<b>42</b>	<b>0</b>	1500	9

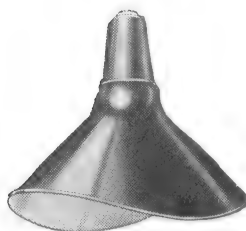
**Prices include lampholders.**

## VERTICAL ELLIPTICAL REFLECTORS

**SPACING  $1\frac{1}{2}$  to 1** (Ratio of length to width of area).



**F 16181/7**  
Saaflux type



**F 16191/7**  
Flange type

**APPLICATION.**—Designed for adequate illumination in locations where the area to be lighted is long in proportion to its width. Library Book-stacks, gangways between Storage Bins, and benches placed along walls cannot be lighted economically with circular dispersive reflectors, and the Vertical Elliptical Reflector is therefore ideal for this purpose. Spacing along area  $1\frac{1}{2}$  times height above plane of work.

**SPECIFICATION.**—Reflector in heavy gauge steel with Crysteel Vitreous Enamel finish, green outside and white inside, in two types (a) SAAFLUX for lamps 60/500 watts and (b) Flange type for 60/500 watt lamps, fitted with skirted all-porcelain B.C., E.S. or G.E.S. lampholder.  
Standard tapping— $\frac{3}{4}$ -in. E.T.

### SAAFLUX TYPE.

### FLANGE TYPE.

Cat. No.	Dimensions	Holder	Price each	Cat. No.	Dimensions	Holder	Price each	Osram lamps recommended	Standard quantity
	ins.		s. d.		ins.		s. d.	watts	
F 16181	13 × 9½	B.C.	21 0	F 16191	13 × 9½	B.C.	18 6	60-75	18
F 16182	13 × 9½	B.C.	21 0	F 16192	13 × 9½	B.C.	18 6	100	18
F 16183	16½ × 12	B.C.	30 0	F 16193	16½ × 12	B.C.	27 6	150	12
F 16184	16½ × 12	E.S.	31 0	F 16194	16½ × 12	E.S.	28 6	150	12
F 16185	16½ × 12	E.S.	31 0	F 16195	16½ × 12	E.S.	28 6	200	12
F 16186	20 × 15½	G.E.S.	42 0	F 16196	20 × 15½	G.E.S.	38 6	300	9
F 16187	20 × 15½	G.E.S.	42 0	F 16197	20 × 15½	G.E.S.	38 6	500	9

**Prices include lampholders.**

# S.E.C.

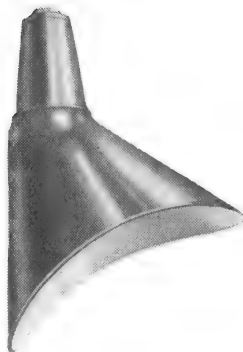
## ELLIPTICAL ANGLE REFLECTORS

SPACING  $1\frac{1}{2}$  TIMES PROJECTION FROM SURFACE.



F 16201/7

Saaflux type



F 16211/7

Flange type



F 16218/9

$1\frac{1}{2}$ -in. hole

**APPLICATION.**—Used extensively for Sign and Poster Lighting and for other vertical surfaces such as Facias and Blackboards.

For high factory bays, for tennis and badminton courts, shop windows, and in fact all locations where the illumination of vertical surfaces is required.

**SPECIFICATION.**—Reflector in heavy gauge steel with Crysteel Vitreous Enamel finish, green outside and white inside, in three types (a) SAAFLUX for lamps 60/500 watts; (b) Flange type for lamps 60/500 watts, complete with skirted all-porcelain B.C., E.S. or G.E.S. lampholder. Standard tapping  $\frac{3}{4}$ -in. E.T. (c) with  $1\frac{1}{2}$ -in. hole (no lampholder) for lamps from 60 to 100 watts.

### SAAFLUX TYPE.

### FLANGE TYPE.

Cat. No.	Dimensions	Holder	Price each	Cat. No.	Dimensions	Holder	Price each	Osram lamps recommended	Standard quantity
	ins.		s. d.		ins.		s. d.		
F 16201	$13 \times 9\frac{1}{4}$	B.C.	21 0	F 16211	$13 \times 9\frac{1}{4}$	B.C.	18 6	60-75	18
F 16202	$13 \times 9\frac{1}{4}$	B.C.	21 0	F 16212	$13 \times 9\frac{1}{4}$	B.C.	18 6	100	18
F 16203	$13 \times 9\frac{1}{4}$	B.C.	22 0	F 16213	$13 \times 9\frac{1}{4}$	B.C.	19 0	150	12
F 16204	$13 \times 9\frac{1}{4}$	E.S.	23 0	F 16214	$13 \times 9\frac{1}{4}$	E.S.	20 0	150	12
F 16205	$16\frac{1}{2} \times 12$	E.S.	32 0	F 16215	$16\frac{1}{2} \times 12$	E.S.	28 6	200	12
F 16206	$20 \times 15\frac{1}{4}$	G.E.S.	42 0	F 16216	$20 \times 15\frac{1}{4}$	G.E.S.	38 6	300	9
F 16207	$20 \times 15\frac{1}{4}$	G.E.S.	42 0	F 16217	$20 \times 15\frac{1}{4}$	G.E.S.	38 6	500	9

Prices include lampholders.

### $1\frac{1}{2}$ -in. HOLE TYPE.

Cat. No.	Dimensions	Osram lamp recommended	Price each	Standard quantity
	ins.	watts	s. d.	
F 16218	$13 \times 9\frac{1}{4}$	60-75	13 6	18
F 16219	$13 \times 9\frac{1}{4}$	100	13 6	18

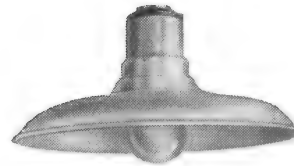
Prices do not include lampholders.

# DISTRIBUTING REFLECTORS

SPACING HEIGHT RATIO,  $1\frac{1}{2}$  to 1.



**F 16221/9**  
Saaflux type



**F 16231/9**  
Flange type

**APPLICATION.**—Distributing Reflectors are used in locations where light is required SIDEWAYS up to a height level with that of the reflector, e.g., GANGWAYS between warehouse bins, FILING RACKS, etc. Also these Reflectors are extensively used where a wide distribution of light is required, such as RAILWAY PLATFORMS, OPEN STORAGE AREAS, etc.

**SPECIFICATION.**—Reflector in heavy gauge steel with Crysteel Vitreous Enamel finish white inside and outside, in three types (a) SAAFLUX for lamps from 60 to 1,500 watts (b) Flange type for lamps from 40/1,500 watts, complete with all porcelain B.C., E.S., or G.E.S. lampholder. Standard tapping  $\frac{3}{8}$ -in. E.T. (c) with  $1\frac{1}{8}$ -in. hole (no lampholder) for ordinary B.C. lampholder.

## SAAFLUX TYPE.

## FLANGE TYPE.

Catalogue No.	Diam.	Holder	Price each	Catalogue No.	Diam.	Holder	Price each	Osram lamps recommended	Standard Quantity
	ins.		s. d.		ins.		s. d.	watts	
F 16221	12	B.C.	14 0	F 16231	12	B.C.	12 6	40-75	18
F 16222	15	B.C.	18 0	F 16232	15	B.C.	16 6	100	12
F 16223	15	B.C.	18 0	F 16233	15	B.C.	16 6	150	12
F 16224	15	E.S.	19 0	F 16234	15	E.S.	17 6	150	12
F 16225	18	E.S.	22 6	F 16235	18	E.S.	20 0	200	9
F 16226	21	G.E.S.	35 0	F 16236	21	G.E.S.	32 6	300	6
F 16227	21	G.E.S.	35 0	F 16237	21	G.E.S.	32 6	500	6
F 16228	24	G.E.S.	50 0	F 16238	24	G.E.S.	45 0	750-1000	6
F 16229	24	G.E.S.	50 0	F 16239	24	G.E.S.	45 0	1500	6

Prices include lampholders.

## $1\frac{1}{8}$ -in. HOLE TYPE.

Catalogue No.	Diam.	Osram lamps recommended	Standard Quantity	Price each
	ins.	watts		s. d.
F 16208	12	40-75	24	6 6
F 16209	15	100-150	18	10 3

Prices do not include lampholders.

# S.E.C.

## LOCAL LIGHTING REFLECTORS



**F 16261/3**



**F 16264/6**

**APPLICATION.**—Designed for the supplementary high illumination of local areas. Ideal for lighting small lathes, fitters' bench vices, small assembly benches, etc., and all locations where the source of light is required close to the work while being invisible to the eyes of the operative.

**SPECIFICATION.**—In heavy gauge steel with Crysteel Vitreous Enamel finish, green outside and white inside. Supplied in extensive and intensive types, the former  $1\frac{1}{2}$  to 1 and the latter 1 to 1 spacing ratio.

### Extensive type with B.C. holder.

### Extensive type, $1\frac{1}{2}$ -in. hole, without holder.

Catalogue No.	Diam.	Osram lamps recommended	Price each	Catalogue No.	Diam.	Osram lamps recommended	Price each	Standard Quantity
	ins.	watts.	s. d.		ins.	watts	s. d.	
<b>F 16261</b>	$5\frac{1}{2}$	15-40	<b>7 0</b>	<b>F 16264</b>	$5\frac{1}{2}$	15-40	<b>4 6</b>	48
<b>F 16262</b>	$6\frac{1}{2}$	60-75	<b>8 0</b>	<b>F 16265</b>	$6\frac{1}{2}$	60-75	<b>5 6</b>	36
<b>F 16263</b>	$7\frac{1}{2}$	100	<b>9 0</b>	<b>F 16266</b>	$7\frac{1}{2}$	100	<b>6 6</b>	24



**F 16271/3**



**F 16274/6**

### Intensive type with B.C. holder.

### Intensive type $1\frac{1}{2}$ -in. hole, without holder.

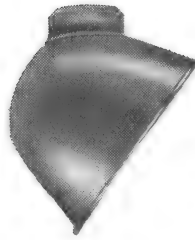
Catalogue No.	Diam.	Osram lamps recommended	Price each	Catalogue No.	Diam.	Osram lamps recommended	Price each	Standard Quantity
	ins.	watts	s. d.		ins.	watts	s. d.	
<b>F 16271</b>	$5\frac{1}{2}$	15-40	<b>7 0</b>	<b>F 16274</b>	$5\frac{1}{2}$	15-40	<b>4 6</b>	48
<b>F 16272</b>	$6\frac{1}{2}$	60-75	<b>8 0</b>	<b>F 16275</b>	$6\frac{1}{2}$	60-75	<b>5 6</b>	36
<b>F 16273</b>	$7\frac{1}{2}$	100	<b>9 0</b>	<b>F 16276</b>	$7\frac{1}{2}$	100	<b>6 6</b>	24



# **LOCAL ANGLE REFLECTORS**



**F 16281**



**F 16282**

45° Angle type

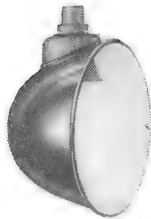
**SPECIFICATION.**—For special local lighting application where light is required at an angle. Made in heavy gauge steel with Crysteel Vitreous Enamel finish, green outside and white inside. These reflectors are supplied either with 1½-in. hole (no lampholder) for ordinary B.C. lampholder, or fitted with skirted B.C. Bakelite lampholder, tapped ¾-in. E.T.

## **45° ANGLE TYPE.**

**With B.C. holder.**

**1½-in. hole, without holder.**

Catalogue No.	Diam.	Osram lamp recommended	Price each		Catalogue No.	Diam.	Osram lamp recommended	Price each		Standard Quantity
<b>F 16281</b>	ins. 6½	watts 15-75	s. <b>8</b>	d. <b>6</b>	<b>F 16282</b>	ins. 6½	watts 15-75	s. <b>6</b>	d. <b>0</b>	36



**F 16283**



**F 16284**

## **HORIZONTAL TYPE.**

**With B.C. holder.**

**1½-in. hole, without holder.**

Catalogue No.	Diam.	Osram lamp recommended	Price each		Catalogue No.	Diam.	Osram lamp recommended	Price each		Standard Quantity
<b>F 16283</b>	ins. 6½	watts 15-75	s. <b>8</b>	d. <b>6</b>	<b>F 16284</b>	ins. 6½	watts 15-75	s. <b>6</b>	d. <b>0</b>	36

## **ADJUSTABLE TYPE.**

**1½-in. hole, without holder.**

Catalogue No.	Diam.	Osram lamp recommended	Price each	
<b>F 16287</b>	ins. 7½	watts 15-75	s. <b>10</b>	d. <b>6</b>



**F 16287**

**S.E.C.****"BENFLUX" REFLECTORS****F 16101/8/9**

**APPLICATION.**—"Benflux" reflector fittings are used in all locations where diffused general illumination—more particularly of a localised nature—is desired. This fitting provides diffused reflection, with an upward component of illumination, for pendant lighting points.

**SPECIFICATION.**—"Benflux" reflectors in heavy gauge special steel with Crysteel Vitreous Enamel finish. F **16101** and F **16109** are supplied white inside and out. F **16108** is supplied in white, yellow or green outside.

Special glass diffusing shade, easily removable for cleaning. Apertures above glass shade provide for cool flexible.

Supplied with 1½ in. hole.

Catalogue No.	Diam.	Standard Quantity	Osram lamps recommended	Price each	Spare Glass Shades, each
	ins.		watts	s. d.	s. d.
F <b>16108</b>	10	24	40-60	<b>5 9</b>	<b>2 6</b>
F <b>16101</b>	12	24	60-100	<b>11 9</b>	<b>3 0</b>
F <b>16109</b>	14	24	100-150	<b>15 9</b>	<b>4 6</b>

**Prices do not include lampholders or lamps.**

# “COOLICON” SHADES

*Patent No. 419602. Other Patents applied for.*

Inexpensive but efficient shades, enabling a proportion of light to pass upwards and illuminate the ceiling.

These shades are recommended for all places where an inexpensive open shade of high lighting value is desired.

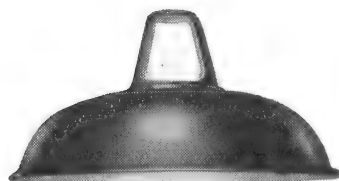
Coolicon keeps the flex cooler.

Coolicon shades are standard with 1½in. hole, but can be supplied with 2½in. lip for use with galleries and E.S. Lampholders.

## VITREOUS ENAMELLED IRON TYPE.

With 1½in. hole.

Cat. No.	Diameter	Pearl Osram lamps recommended	Price each	
	ins.	watts	s.	d.
F 16102	9	40/75	2	3
F 16103	11	100/150	2	9



**F 16102/3**

Vitreous Enamelled Iron,  
Green outside, white inside,  
1½in. hole.

## VITREOUS ENAMELLED IRON TYPE.

With 2½in. lip.

Cat. No.	Diameter	Pearl Osram lamps recommended	Price each	
	ins.	watts	s.	d.
F 16105	9	40/75	2	3
F 16106	11	100/150	2	9

**F 16105/6**

As above but with 2½in. lip  
for use with galleries and E.S.  
lampholders.

## OPAL GLASS TYPE.

With 1½in. hole.

Cat. No.	Diam.	Pearl Osram lamps recommended	White, each.		Colours, each.	
	ins.	watts	s.	d.	s.	d.
F 16462	9	40/75	2	9	3	3
F 16463	11	100/150	3	3	4	3



**F 16462/3**

Opal glass shade with metal  
gallery. Supplied in white,  
champagne, pink and green.  
1½in. hole.

## OPAL GLASS TYPE.

With 2½in. lip.

Cat. No.	Diam.	Osram Lamps recommended	White, each		Colours each	
	ins.	watts	s.	d.	s.	d.
F 16482	9	40/75	2	9	3	3
F 16483	11	100/150	3	3	4	3

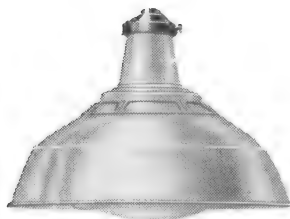
**F 16482/3**

As above but with 2½in. lip  
for use with galleries and  
E.S. lampholders.

**S.E.C.**

# GLASSTEEL DIFFUSERS AND GLASSTEEL DAYLIGHT DIFFUSERS

SPACING HEIGHT RATIO,  $1\frac{1}{4}$  to 1.



F 16241/6

**APPLICATION.**—F 16241/6 Glassteel diffusers are designed for the general illumination of all areas where perfect diffusion is required, such as Printing Works, Drawing Offices, General Offices, all locations using small machinery (sewing machines, etc.), and where work is carried out on polished materials and surfaces. F 16251/6 Glassteel daylight diffusers are designed for the general illumination of all areas where diffused lighting approximating daylight colour is required.

**SPECIFICATION.**—Glassteel Reflector in heavy gauge steel finished with Crysteel Vitreous Enamel finish white outside and inside. Bowl of special diffusing glass or of special daylight blue glass, acid frosted inside, easily detachable for cleaning, relamping, etc., and providing a large amount of protection against dust, etc. Fitted with skirted all-porcelain B.C., E.S., or G.E.S. lampholders.

## GLASSTEEL DAYLIGHT GLASSTEEL DIFFUSERS.

Catalogue No.	Diam.	Holder	Price each	Catalogue No.	Diam.	Holder	Price each	Osram lamps recommended	Standard Quantity
	ins.		s. d.		ins.		s. d.	watts	
F 16241	18	B.C.	40 0	F 16251	18	B.C.	60 0	100	6
F 16242	18	B.C.	40 0	F 16252	18	B.C.	60 0	150	6
F 16243	18	E.S.	40 0	F 16253	18	E.S.	60 0	150	6
F 16244	18	E.S.	40 0	F 16254	18	E.S.	60 0	200	6
F 16245	20	G.E.S.	50 0	F 16255	20	G.E.S.	76 6	300	6
F 16246	20	G.E.S.	50 0	F 16256	20	G.E.S.	76 6	500	6

Prices include lampholders.

## SPARE GLOBES.

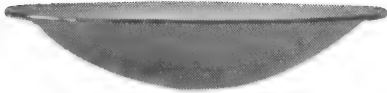
For F 16241/4  
Price each  
10/-

For F 16245/6  
Price each  
12/6

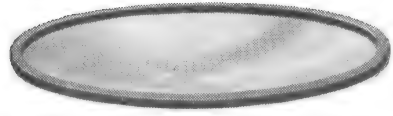
For F 16251/4  
Price each  
30/-

For F 16255/6  
Price each  
39/-

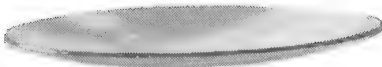
# DUSTPROOF AND DAYLIGHT VISORS



Daylight Glass



Gasket



Clear Glass



Retaining Band

**SPECIFICATION.**— The dustproof Visor attachment comprises heat-resisting domed clear glass screen, circular U-section gasket and cadmium plated steel retaining band with spring-loaded locking lever.

The Daylight Visor attachment comprises blue-tinted daylight glass screen with gasket and retaining band as above.

These are suitable for the reflectors F **16111/7**, F **16121/7**, F **16141/7**, F **16151/7**, F **16161/7**, F **16171/7**.

## DUSTPROOF VISORS.

Catalogue No.	Diam.	Price each		Spare Glasses, each	
	ins.	s.	d.	s.	d.
F <b>16301</b>	9	9	9	3	6
F <b>16302</b>	12	12	6	5	0
F <b>16303</b>	14	15	3	6	3
F <b>16304</b>	15	16	9	7	0
F <b>16305</b>	16	18	0	7	6
F <b>16306</b>	18	24	0	10	6

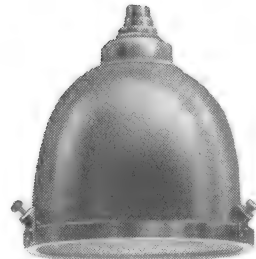
## DAYLIGHT VISORS.

Catalogue No.	Diam.	Price each		Spare Glasses, each	
	ins.	s.	d.	s.	d.
F <b>16307</b>	6½	12	6	3	6
F <b>16308</b>	12	33	0	25	6
F <b>16309</b>	14	36	0	27	0

F **16307** has a Bronze colour band with three retaining screws, rubber gasket and flat glass.

## LOCAL LIGHTING DAYLIGHT VISOR UNITS.

Reflector type	Diam.	1½ in. hole type		With Bakelite Lampholder			
		Catalogue No.	Price each	Catalogue No.	Price each		
	ins.		s.	d.		s.	d.
EXTENSIVE	6½	F 16291	18	0	F 16296	20	6
INTENSIVE ..	6½	F 16292	18	0	F 16297	20	6
ANGLE	6½	F 16293	18	6	F 16298	21	0
HORIZONTAL	6½	F 16294	18	6	F 16299	21	0



F **16296/9**



## ARTIFICIAL DAYLIGHT FITTINGS

The term "artificial daylight" has been used in the past to denote the light given from any form of fitting or apparatus which tends to reduce the proportion of red rays and increase the proportion of blue rays as compared with the natural light from a tungsten filament lamp.

Such light is in many cases very far from true daylight, which, it will be realised, is itself of variable quality, but a greater or lesser degree of correction will serve some useful purpose according to the nature of the work it is required to carry out under it. In some instances the mere introduction of a high proportion of blue or green rays without attempting to secure correct matching with any form of daylight will be sufficient. In this category come processes such as the sorting of coal and shale, the detection of iron-mould or scorches in laundry work, and the inspection of certain metals.

For many purposes the introduction of the Osira lamp has provided a form of light which not only has the required colour qualities, but has the further advantage of a very high efficiency.

Other equipment available includes industrial reflectors with various types of blue glass, and porcelain shades of "Wedgwood" blue for use in such places as drawing and other offices. These can be used with either ordinary Osram clear or Pearl tungsten lamps or to great advantage with Osram "Daylight" lamps.

Where, however, accurate reproduction of daylight for true colour matching purposes is required, far more elaborate equipment is necessary.

For use with ordinary tungsten lamps, the most perfect colour filter is provided by G.E.C. fittings with "Lamplough" glass. These fittings are glazed with two separate glass filters of special "Lamplough" glass and the light is the nearest approach to natural daylight that has yet been obtained with any incandescent lamp source. Where absolute constancy of light is not so important as the limitation of first cost, "Lamplough" daylight is the ideal colour matching medium.

Any form of corrected light, however, depending on a tungsten filament lamp for primary light source is subject to colour and quality variations due to normal voltage fluctuations. The light from an electric discharge lamp is not subject to such variation and remains constant for voltages very considerably outside the range of ordinary fluctuation. For this reason, where absolute constancy and standardisation of products are required, Claudex "Artificial Daylight" is the only form of corrected light deemed to be satisfactory. Not only is the light emitted an almost exact reproduction of north sky daylight, but its constancy makes it more reliable than daylight itself. In view of this many industrialists find it more satisfactory to exclude daylight and carry out all their colour matching under the light of Claudex "Daylight."

## **CLAUDEGEN ARTIFICIAL DAYLIGHT**

CLAUDEGEN DAYLIGHT, by its close approximation to the best form of daylight, and its absolute constancy throughout life, makes it a more reliable form of daylight illumination than daylight itself.

Daylight varies from day to day, according to cloud, mist or sunshine. Its composition is also influenced by the colour and nature of the surrounding objects in any particular locality, but Claudegen Daylight never varies. It is the nearest approach to true natural daylight yet attained, and

Is well diffused.

Remains constant.

Is a pleasant light for all working conditions and causes no injurious effect to eyesight.

Promotes acuity of vision.

Is less costly to run than any other form of true colour corrected light.

Is inexpensive to maintain.

Is entirely British made and has been subjected to comprehensive tests in the G.E.C. Research Laboratories, and during every process of manufacture.

Is a protection against fire and explosion risks.

Claudegen Daylight is incapable of setting fire to inflammable or explosive gases, materials, etc., and is therefore particularly suitable for use in **Cellulose Spraying Shops** and similar situations where inflammable materials are being handled.

Claudegen Daylight lighting is supplied in the form of luminous tubing. This tubing can be installed on ceilings or walls either with or without special reflectors, or it can be supplied in the form of a portable unit. The latter, however, is not suitable for use in inflammable surroundings.

Claudegen Daylight is not expensive to maintain. Beyond regular cleaning of the tubing it needs no attention and continues to operate at its maximum efficiency, subject to the periodic replenishment of the gas separator.

The Illuminating Engineering Department of the G.E.C. will be pleased to supply further details of the Claudegen Daylight lighting on request.



*CLAUDEGEN Portable  
Daylight Lighting Unit for  
studying colour combina-  
tions during manufacturing  
operations.*

**G.E.C.**

**“WEDGWOOD”  
DAYLIGHT REFLECTORS**



**F 16467**



**F 16468**

G.E.C. fittings with “Wedgwood” Daylight Shades are attractive in appearance, efficient in performance, and easy and inexpensive to maintain. For Drawing and Design Offices and all situations where a pleasing partially corrected light is required, the G.E.C. fittings with “Wedgwood” reflectors are ideal. For best results they should be used with Osram Daylight lamps.

**FINISH.**—Shades of the well known Wedgwood blue porcelain. Metalwork chromium plated.

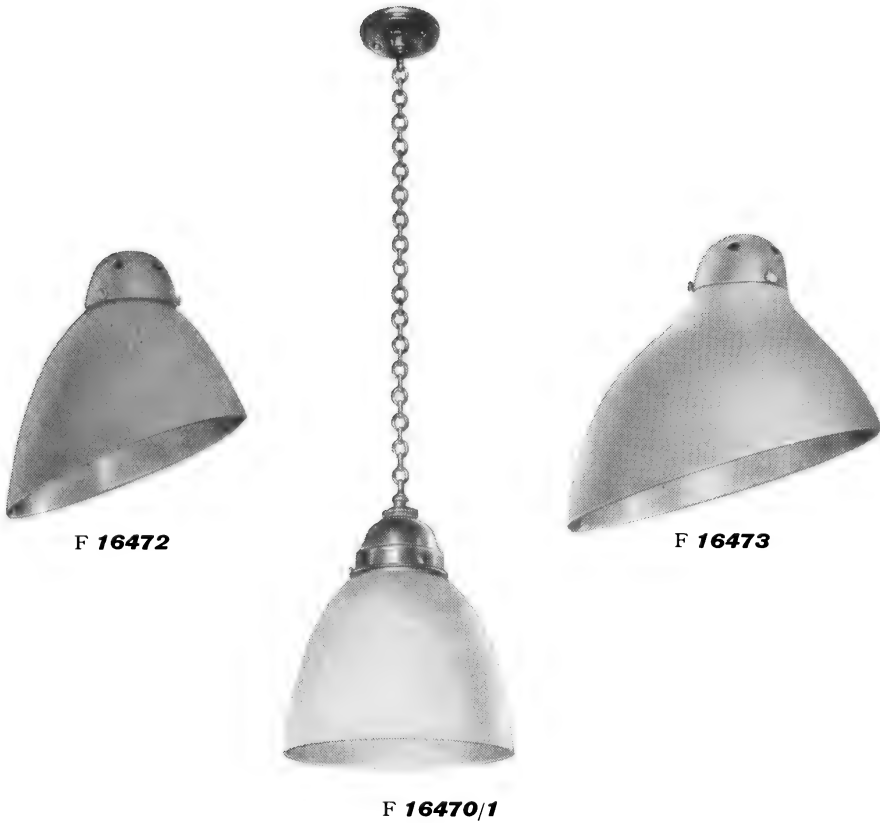
Catalogue No.	Type	Diam.	Lamp-holder	Osram lamps recommended	Price each
F <b>16467</b>	Dispersive	ins. 12	B.C.	watts 75/100	<b>34/6</b>
F <b>16468</b>	„	14	B.C.	150	<b>45/-</b>
F <b>16469</b>	„	14	E.S.	200	<b>54/-</b>

Length 30ins. overall.

**Prices include lampholders but not lamps.**



**“WEDGWOOD”  
DAYLIGHT FITTINGS**



**FINISH.**—Shades of the well known Wedgwood blue porcelain. Metalwork, chromium plated.

Catalogue No.	Type	Diam. ins.	Lamp- holder	Osram lamps recommended watts	Price each
F <b>16470</b>	Concentrating	7	B.C.	75/100	<b>24/-</b>
F <b>16471</b>	„	8	B.C.	150	<b>33/-</b>
F <b>16472</b>	Angle	6½	—	60	<b>13/6</b>
F <b>16473</b>	„	8	—	100/150	<b>19/6</b>

F **16470/1** includes ceiling plate, chain and lampholder. Length 30ins. overall.

F **16472/3** includes reflector and gallery only.

# G.E.C.

## "LAMPLOUGH" DAYLIGHT FITTINGS



F 16474/5

F 16476

F 16477

F 16479

G.E.C. fittings with "Lamplough" patent Daylight glass provide the most scientific form of colour corrected light possible to attain with the aid of colour filters and incandescent lamps. Each fitting is equipped with two coloured glasses of selective absorption to give the closest approximation to north sky daylight, the glasses for each wattage lamp being selected to correspond to the colour qualities of lamps of such wattage. Consequently G.E.C. fittings with "Lamplough" glass can be safely used wherever accurate colour matching is required.

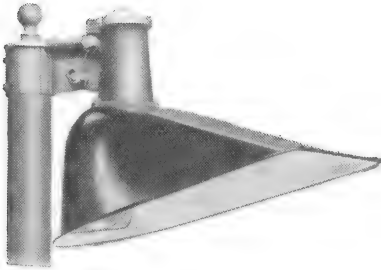
F 16479 is a table standard (switch in base) with a height overall of 19 in.

Standard finish : Green vitreous enamelled iron outside, white inside, except F 16475 and F 16479 which are Real Bronze colour.

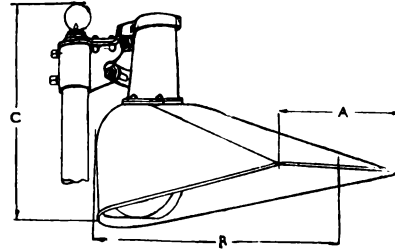
Catalogue No.	Diam. of Glass	Standard Tapping	Lamp-holder	Osram lamps recommended	Price each
	ins.			watts	£ s. d.
F 16474	6½	1½ in. hole	—	100 Coiled Coil Clear	4 15 0
F 16475	6½	1½ in. hole	—	100 " " "	5 5 0
F 16476	8½	¾ in. E.T.	E.S.	200 Clear ..	9 0 0
F 16477	12	¾ in. E.T.	G.E.S.	500 " ..	15 0 0
F 16478	12	¾ in. E.T.	G.E.S.	1000 " .. ..	16 0 0
F 16479	6½	—	B.C.	100 Coiled Coil Clear	8 10 0

Prices include lampholders (except F 16474/5) but not lamps.

# **“DUOFLUX” FLOODLIGHTS**



**F 16411/8**



**Dimensional Drawing**

“Duoflux” floodlights are used for floodlighting downwards and forwards. Their construction assures that no upward light is wasted, as it is cut off and re-directed by the reflector.

The reflector is made in heavy gauge steel, vitreous enamelled green outside and white inside. The auxiliary reflector is of anodised aluminium. Hood and mounting is of special aluminium alloy die-casting.

Suitable for mounting on top of 1½ in. gas tube, or in 500/1500 watt size, by dispensing with liner, to fit on 3 in. pole.

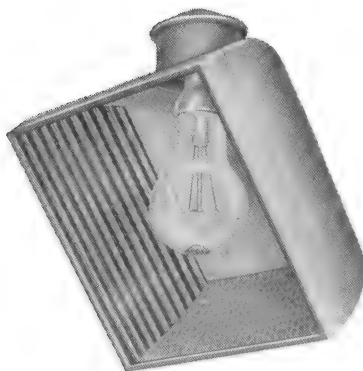
Pole clamp mounting type in 500/1500 watt size, suitable for 3 to 4 in. poles.

Cat. No.	Type	Dimensions			Osram lamps recommended	Price each		
		A	B	C		£	s.	d.
F 16411	Pole top mounting	ins.	ins.	ins.	watts			
F 16412		19	17½	15	300	5	5	0
F 16413		25	22½	19½	500	7	7	0
F 16414		25	22½	19½	750-1000	7	7	0
		25	22½	19½	1500	7	7	0
F 16416	Pole clamp mounting	25	22½	19½	500	7	7	0
F 16417		25	22½	19½	750-1000	7	7	0
F 16418		25	22½	19½	1500	7	7	0

**Prices include lampholders**

# S&C

## GARAGE FLOODLIGHT



**F 17551**

This unit is specially designed for illuminating the front of petrol service stations, small roadside hotels and similar establishments.

The mirror glass side reflectors are of a carefully designed contour to spread the light at a wide angle across the building face, while the opal glass top reflectors give a soft even lighting immediately below the floodlight.

This floodlight, while of an inexpensive nature, is scientifically designed to give the very best possible light distribution for the purpose, and in this respect is superior to many more expensive pieces of apparatus on the market. The unit is designed to take Osram lamps of from 150 to 200 watts. For outside use it can only be mounted in the vertical position.

The fitting is designed for mounting on the top, or at the sides, of posts, a simple strap iron bracket being all that is required for the purpose. Suitable brackets can be supplied on request.

Catalogue No.	Dimensions		Weight complete	Osram lamps recommended	Price each
	Height overall	Width			
<b>F 17551</b>	ins. 13	ins. 10	lbs. 5	watts 150 or 200	£   s.   d. <b>2   7   6</b>

**Price includes lampholder, but not lamp.**

# WEATHERPROOF LANTERNS FOR EXTERIOR SHOP LIGHTING



**F 4858/9**  
**"SARON."**

F **4858** canopy is made in copper, finished bronze colour.

F **4859** canopy is made in "Staybrite" steel.

Both lanterns are supplied with 16in. "Britalux" opal globes.



**F 4868/70**  
**"RIDGEWAY."**

F **4868** canopy is made in copper, finished bronze colour.

F **4870** canopy is made in "Staybrite" steel.

Both lanterns are supplied with 12-in. square shape opal glass globes with flat corners.

Cat. No.	Finish	Overall height	Overall diam. of canopy	Glass		Weight		Osram lamps recommended	Price each
				Diam.	Depth	Fitting	Glass		
F <b>4868</b>	Bronze Colour	ins. 21	ins. 10	ins. 12	ins. 11	lbs. 3½	lbs. 5¼	watts Up to 200	£ s. d. <b>2 17 6</b>
F <b>4870</b>	Staybrite steel	21	10	12	11	3½	5¼		<b>4 7 6</b>
F <b>4858</b>	Bronze colour	21	10	16	11	3½	4½	Up to 200	<b>2 3 6</b>
F <b>4859</b>	Staybrite steel	21	10	16	11	3½	4½		<b>3 13 6</b>

**Prices include E.S. lampholders but not lamps.**

**S.E.C.**

**WEATHERPROOF LANTERNS  
FOR EXTERIOR SHOP LIGHTING**



**F 4861/3**

**"GUILDHALL"**

F **4861** canopy is made in iron, finished green vitreous enamel.

F **4863** canopy is made in copper, finished oxidised.

Both lanterns are supplied with "Superlux" glass globes.

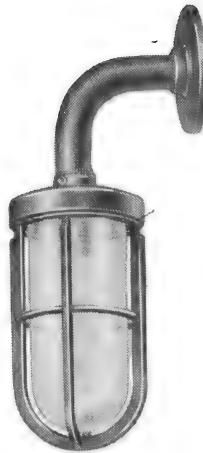
Cat. No.	Finish	Overall Height	Overall diam. of canopy	Glass		Weight		Osram lamps recommended	Price each
				Diam.	Depth	Fitting	Glass		
<b>F 4861</b>	Green	ins. 23	ins. 9	ins. 12	ins. 11½	lbs. 2½	lbs. 3½	watts	£ s. d. 1 15 0
<b>F 4863</b>	Ox. Copper	23	9	12	11½	2½	3½	Up to 200	2 0 0

**Prices include E.S. lampholders but not lamps.**

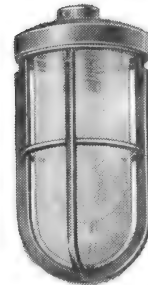
**WATERTIGHT FITTINGS  
SCREWED GUARD TYPE FOR SHIPS' USE**



**F 4872**



**F 4874**



**F 4873**  
Screwed 1in. brass

**SPECIFICATION.**—Heavy cast brass dome and substantial guard. Standard finish: Black Bronze.  $\frac{3}{8}$ in. lampholder nipples. Clear glasses.

Cat. No.	Overall length	Projection	Weight	Price each	
	ins.	ins.	lbs.	s.	d.
<b>F 4872</b>	9	—	2 $\frac{1}{4}$	<b>9</b>	<b>6</b>
<b>F 4873</b>	8	—	1 $\frac{1}{4}$	<b>8</b>	<b>6</b>
<b>F 4874</b>	12 $\frac{1}{2}$	5 $\frac{1}{2}$	2 $\frac{1}{2}$	<b>11</b>	<b>0</b>

**Prices include light pattern glasses, rubbers and lampholders, but not lamps.**

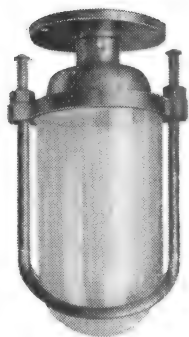
Heavy pattern well glasses can be supplied at **10/6** dozen extra.

# S.E.C.

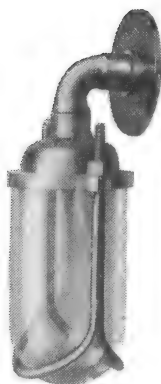
## WATERTIGHT FITTINGS

### HEAVY STIRRUP GUARD PATTERN

#### FOR SHIPS USE.



F 4875



F 4877



F 4876  
Screwed  $\frac{3}{4}$  in. Gas.

**SPECIFICATION.**—Heavy cast brass dome with half-round drawn brass guard with ends riveted to prevent loss of nuts or guards. Standard finish: Black Bronze. Clear glasses;  $\frac{3}{8}$  in. lampholder nipples.

Cat. No.	Overall length	Projection	Weight	Price each	
	ins.	ins.	lbs.	s.	d.
F 4875	8 $\frac{1}{2}$	—	2 $\frac{3}{4}$	11	0
F 4876	8	—	2	9	6
F 4877	11	4	3	13	6

**Prices include glasses, rubbers and lampholders, but not lamps.**



**SHIP TYPE FITTINGS**



**F 4878**



**F 4880**



**F 4879**

**SPECIFICATION.**—Heavy cast brass with clear glasses. Standard finish : Polished Brass.

Catalogue No.	Overall length	Projection	Diam. of glass	Weight	Price each	
	ins.	ins.	ins.	lbs.	s.	d.
<b>F 4878</b>	6	---	5 $\frac{1}{4}$	1 $\frac{1}{2}$	<b>8</b>	<b>6</b>
<b>F 4879</b>	8 $\frac{1}{2}$	---	5 $\frac{1}{4}$	1 $\frac{3}{4}$	<b>14</b>	<b>3</b>
<b>F 4880</b>	12 $\frac{1}{2}$	4	5 $\frac{1}{4}$	2	<b>16</b>	<b>6</b>

**Prices include glasses and lampholders, but not lamps.**

Frosted inside glasses can be supplied at **6d.** each extra.

# S.E.C.

## WEATHERPROOF CAST IRON FITTINGS



**F 4904/8**



**F 3773**

**SPECIFICATION.**—Cast iron galleries in Silverlac finish. F **4904/8** are arranged with drip holes. Standard tapping is  $\frac{1}{4}$ in. E.T.

Catalogue No.	For Lip Globes	Approx. Weight	Gallery only
	ins.	lbs.	Doz. s. d.
F <b>4905</b>	3½	1	75 0
F <b>4906</b>	4	2	84 0
F <b>4904</b>	6	4½	108 0
F <b>4907</b>	7	5	117 0
F <b>4908</b>	8½	6	132 0

Catalogue No.	For Lip Globes	Approx. Weight	Gallery only
	ins.	lbs.	doz. s. d.
F <b>3773</b>	3½	½	28 6
	4	1½	36 0
	6	2½	57 0
	7	4½	66 0
	8½	5½	75 0

**Prices do not include glassware or lampholders.**

### GLASSWARE FOR USE WITH ABOVE.

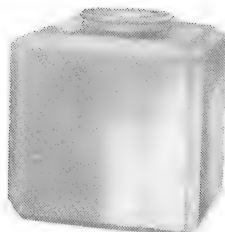
**" SUPERLUX."**



**G 140/8**

**" BRITALUX."**

White opal cube.



**GO 2973**

**" EQUILUXO."**



**G 1540/6**

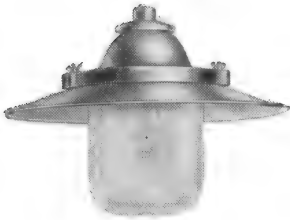
Cat. No.	Diam.	Lip	Price each
	ins.	ins.	
G <b>140</b>	6	3½	3/9
G <b>143</b>	7½	4	5/3
G <b>145</b>	10	4	10/6
G <b>146</b>	12	8½	16/6
G <b>148</b>	16	8½	45/-

Cat. No.	Sq.	Lip	Price each
	ins.	ins.	
GO <b>2973</b>	4	3½	6/6
GO <b>2973</b>	6	3½	8/6
GO <b>3008</b>	8	4	12/6
GO <b>3086</b>	10	6	25/-

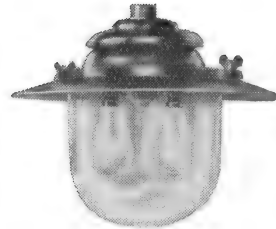
Cat. No.	Diam.	Lip	Price each
	ins.	ins.	
G <b>1540</b>	6	3½	6/6
G <b>1542</b>	8	4	8/9
G <b>1544</b>	10	5	15/-
G <b>1546</b>	12	6	25/6

**S.E.C.**

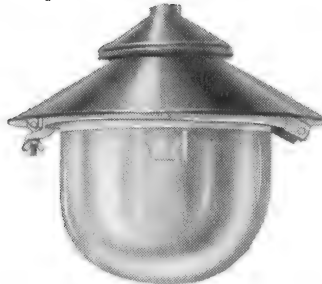
# WEATHERPROOF FITTINGS CAST IRON



**F 4881**



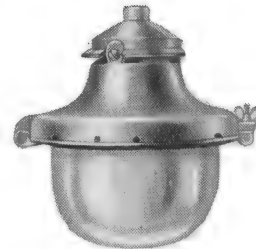
**F 4883**



**F 4885**



**F 4887**



**F 4889**

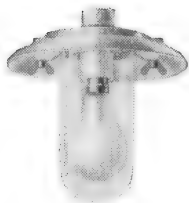
**SPECIFICATION.**—Above are made in cast iron, finished “Silverlac” outside, stove enamelled white inside, except **F 4887**, which is vitreous enamelled white inside (if supplied galvanized outside, **F 4887** is stove enamelled white inside). All are ventilated. Standard tapping is  $\frac{1}{4}$  in. E.T.

Catalogue No.	Overall Height	Overall diam.	Glass		Weight		Osram lamps recommended	Price each	
			Diam.	Depth	Fitting	Glass		Silverlac finish	Galvanized finish
	ins.	ins.	ins.	ins.	lbs.	lbs.	watts	£ s. d.	£ s. d.
<b>F 4881</b>	13 $\frac{1}{2}$	18	7 $\frac{1}{2}$	8 $\frac{1}{2}$	10 $\frac{1}{2}$	2 $\frac{1}{2}$	150 or 200	1 8 6	—
<b>F 4883</b>	14 $\frac{1}{2}$	16	10 $\frac{1}{2}$	9 $\frac{1}{2}$	18 $\frac{1}{2}$	2 $\frac{1}{2}$	Two 100 (Pearl)	1 9 6	—
<b>F 4885</b>	15	18	12 $\frac{1}{2}$	9 $\frac{1}{2}$	26 $\frac{1}{2}$	3	Four 100 „	2 5 0	—
<b>F 4887</b>	10	10 $\frac{1}{2}$	4 $\frac{1}{2}$	6	8	$\frac{1}{2}$	100 „	19 6	1 2 6
<b>F 4889</b>	11	11 $\frac{1}{2}$	8 $\frac{1}{2}$	5	8 $\frac{1}{2}$	1 $\frac{1}{2}$	100 „	18 6	—

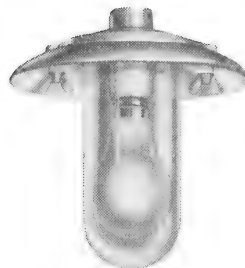
**Prices include lampholders but not lamps.**

# S.E.C.

## WATERTIGHT FITTINGS



**F 4909**



**F 4910**



**F 4891**  
Without reflector



**F 4899**

**F 4895**  
With reflector as  
illustration



**F 4903**

**SPECIFICATION.**—The above fittings are made in cast iron, finished “Silverlac” (or galvanized where stated), stove enamelled white inside. Standard tapping is  $\frac{1}{4}$  in. E.T.

F 4909/10 are fitted with porcelain B.C. lampholders.

Catalogue No.	Overall height	Overall diam.	Glass		Weight		Pearl Osram lamps recommended	Price each			
			Diam.	Depth	Fitting	Glass		Silverlac finish		Galvanized finish	
F 4891	ins. 12 $\frac{1}{2}$	ins. 9 $\frac{1}{2}$	ins. 7	ins. 8	lbs. 3 $\frac{1}{2}$	lbs. 1 $\frac{1}{2}$	watts 100	s. 10	d. 6	s. —	d. —
F 4895	ins. 12 $\frac{1}{2}$	ins. 12	ins. 7	ins. 8	lbs. 7	lbs. 1 $\frac{1}{2}$	watts 100	s. 12	d. 9	s. —	d. —
F 4899	ins. 17 $\frac{1}{2}$	ins. 9 $\frac{1}{2}$	ins. 9 $\frac{1}{2}$	ins. 13 $\frac{1}{2}$	lbs. 5 $\frac{1}{2}$	lbs. 4 $\frac{1}{2}$	watts 40/60	s. 63	d. 0	s. —	d. —
F 4903	ins. 10	ins. 12	ins. 7	ins. 7 $\frac{1}{2}$	lbs. 4 $\frac{1}{2}$	lbs. 3	watts 40	s. 12	d. 3	s. —	d. —
F 4909	ins. 7 $\frac{1}{2}$	ins. 7 $\frac{1}{2}$	ins. 3	ins. 6 $\frac{1}{2}$	lbs. 2 $\frac{1}{2}$	lbs. 1	watts 40/60	s. 4	d. 3	s. 4	d. 9
F 4910	ins. 8 $\frac{1}{2}$	ins. 8 $\frac{1}{2}$	ins. 4 $\frac{1}{2}$	ins. 6 $\frac{1}{2}$	lbs. 3 $\frac{1}{2}$	lbs. 1	watts 60/100	s. 6	d. 0	s. 6	d. 9

**Prices include lampholders but not lamps.**

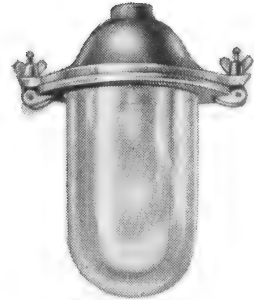
**WATERTIGHT FITTINGS**



**F 4911**



**F 4917**



**F 4892**



**F 4913/5**



**F 4896**



**F 4919**

**SPECIFICATION.**—The above fittings are made in cast iron, finished “Silverlac” or galvanized ; stove enamelled white inside. “Silverlac” finish will be supplied unless otherwise ordered. Standard tapping is  $\frac{3}{4}$  in. E.T. F **4913** is supplied without a reflector, and F **4915** with a reflector.

Catalogue No.	Overall height	Overall diam.	Glass		Weight		Pearl Osram lamps recommended	Price each	
			Diam.	Depth	Fitting	Glass		Silverlac finish	Galvanized finish
F <b>4911</b>	ins. 8	ins. 5½	ins. 3	ins. 6½	lbs. 1½	lbs. ½	watts 40 or 60	s. d. 3 9	s. d. 4 3
F <b>4913</b>	8	5½	3	6½	1½	½	40 or 60	3 9	4 3
F <b>4915</b>	8	7½	3	6½	2	½	40 or 60	4 9	5 3
F <b>4917</b>	10	5	3	6½	2½	½	40 or 60	6 0	—
F <b>4919</b>	10	10	3	6½	6½	½	40 or 60	10 0	—
F <b>4892</b>	8½	7	4½	6½	2	½	60 or 100	6 9	7 6
F <b>4896</b>	8½	9	4½	6½	3	½	60 or 100	7 6	8 9

**Prices include lampholders but not lamps.**

# S.E.C.

## BRACKETS FOR WATERTIGHT FITTINGS

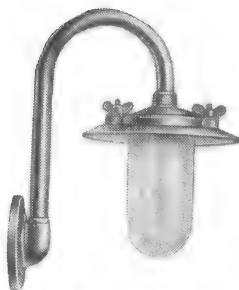


**F 4923**

Iron bracket only.  
Projection 6 ins.  
Screwed  $\frac{1}{4}$ -in. E.T.  
Cast iron backplate 4 ins. diam.

Cat. No.	Description.	Price each.
		s. d.
<b>F 4923</b>	Silverlac finish ..	<b>1 9</b>
	Galvanized finish ..	<b>2 0</b>

Watertight fitting as illustrated, see page 589.



**F 4927**

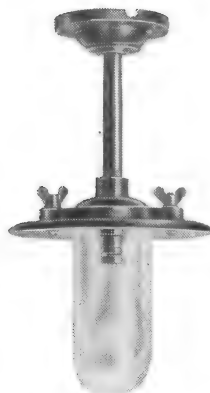
Iron bracket for fixing over doorways  
Projection 7 ins.  $\times$   $\frac{1}{4}$ -in. E.T.  
Backplate 4 ins. diam.

Cat. No.	Description.	Price each
		s. d.
<b>F 4927</b>	Silverlac finish ..	<b>3 0</b>
	Galvanized finish ..	<b>3 6</b>

Watertight fitting as illustrated, see page 589.

If specified, backplates  $2\frac{1}{2}$  ins. diam., drilled for fixing to B.S.I. conduit boxes, can be supplied for any of the above brackets.

Prices do not include lanterns.



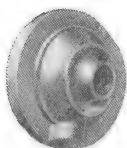
**F 4925**

Iron pendant only.  
Length 6 ins.

Screwed  $\frac{1}{4}$ -in. E.T.  
Cast iron backplate 4 ins. diam.

Cat. No.	Description	Price each
		s. d.
<b>F 4925</b>	Silverlac finish ..	<b>1 6</b>
	Galvanized finish ..	<b>1 9</b>

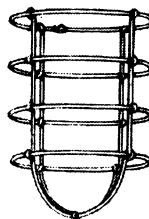
Watertight fitting as illustrated see page 589.



**F 4898**

Cast iron backplate, 4 ins. diam., screwed  $\frac{1}{4}$ -in. gas or  $\frac{1}{4}$ -in. E.T., with front entry for conduit screwed  $\frac{1}{4}$ -in. gas or  $\frac{1}{4}$ -in. E.T.

Cat. No.	Description	Price each
		s. d.
<b>F 4898</b>	Silverlac finish ..	<b>1 9</b>
	Galvanized finish ..	<b>2 3</b>



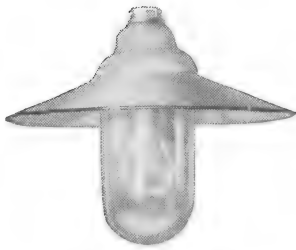
**F 4920/2**

Galvanized wire guard.

Cat. No.	Description	Price per doz.
		s. d.
<b>F 4920</b>	Wire guard for F 4909	<b>9 0</b>
<b>F 4921</b>	Wire guard for F 4913/5	<b>9 0</b>
<b>F 4922</b>	Wire guard for F 4910	<b>10 0</b>

# **PORCELAIN WATERTIGHT FITTINGS WITH WHITE VITREOUS ENAMELLED REFLECTORS.**

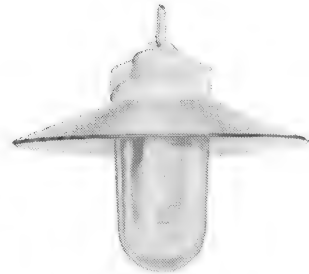
(Patent No. 34675/32).



**F 4932/6**



**F 4938**



**F 4934**

The above fittings are supplied with screw-neck glasses, and designed for use in damp positions where corrosion is likely to take place. The lampholders, which form an integral part of the fitting, are all porcelain and can be supplied either for bayonet or Edison screw-cap lamps.

Cat. No.	Description	Weight	Diameter of reflector	Osram lamps recommended	Price each
		lbs.	ins.	watts.	£ s. d.
<b>F 4932</b> {	Without reflector, Tapped $\frac{1}{8}$ " E.T. . . . .	2 $\frac{1}{2}$	—	40 or 60 Pearl	<b>7 6</b>
	With reflector ditto . . . . .	3 $\frac{1}{2}$	12	40 or 60 „	<b>9 6</b>
<b>F 4934</b> {	Without reflector, with suspension loop . . . . .	2 $\frac{1}{2}$	—	40 or 60 „	<b>7 6</b>
	With reflector ditto . . . . .	3 $\frac{1}{2}$	12	40 or 60 „	<b>9 6</b>
	Spare screw-neck well glasses for <b>F 4932, 4</b> , 7 $\frac{1}{2}$ " deep, 3 $\frac{1}{2}$ " diam. . . . .	$\frac{1}{2}$	—	—	<b>1 9</b>
<b>F 4936</b> {	As <b>F 4932</b> , without reflector, 100 watt lamp size . . . . .	3	—	100 „	<b>13 6</b>
	As <b>F 4932</b> , with reflector, 100 watt lamp size . . . . .	4 $\frac{1}{2}$	14	100 „	<b>16 9</b>
	Spare screw-neck well glasses for <b>F 4936</b> , 7 $\frac{1}{2}$ " deep, 4 $\frac{1}{2}$ " diam. . . . .	1 $\frac{1}{2}$	—	—	<b>3 6</b>
<b>F 4938</b> {	As <b>F 4936</b> , but with opal globe (E.S. lampholder) . . . . .	4 $\frac{1}{2}$	—	150/200	<b>1 2 6</b>
	Spare screw-neck opal globes, 9" deep, 10" diam. . . . .	2 $\frac{1}{2}$	—	—	<b>12 6</b>

**Prices include lampholders but not lamps.**

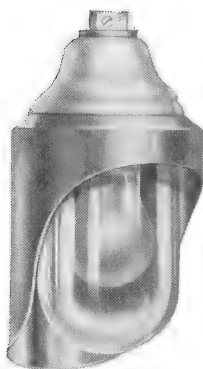
**S.E.C.**

**PORCELAIN  
WATERTIGHT FITTINGS  
WITH WHITE VITREOUS ENAMELLED REFLECTORS.**

*(Patent No. 34675/32).*



**F 4924/28**



**F 4929/30**



**F 4926**

The above porcelain fittings are arranged with dispersive or scoop-shaped back reflectors in white vitreous enamel.

Catalogue No.	Description	Weight	Pearl Osram lamps recommended	Price each
F <b>4924</b>	F <b>4932</b> porcelain fitting with 12in. dispersive reflector. Tapped $\frac{3}{4}$ in. E.T. .. ..	lbs. 4 $\frac{1}{2}$	Watts 40 or 60	£ s. d. <b>15 0</b>
F <b>4926</b>	F <b>4934</b> porcelain fitting with 12in. dispersive reflector .. ..	4 $\frac{1}{2}$	40 or 60	<b>15 0</b>
F <b>4928</b>	F <b>4936</b> porcelain fitting with 14in. dispersive reflector .. ..	5 $\frac{1}{2}$	100	<b>1 4 0</b>
F <b>4929</b>	F <b>4932</b> porcelain fitting with scoop-shaped back reflector ..	2 $\frac{1}{2}$	40 or 60	<b>15 0</b>
F <b>4930</b>	F <b>4936</b> porcelain fitting with scoop-shaped back reflector ..	3 $\frac{1}{2}$	100	<b>1 2 6</b>

**Prices include lampholders but not lamps.**



**PORCELAIN  
WATERTIGHT FITTINGS  
WITH SILVERED ENCLOSED GLOBES**



**F 4939**  
with **F 4941** bracket



**F 4940**

These fittings comprise a totally enclosed silvered glass globe, screwing into a porcelain top. The fitting can be screwed direct on to conduit ( $\frac{3}{4}$  in. E.T.) or can be supplied with dust-tight glands and universal bracket enabling it to be tilted at any angle. It is suitable for use where totally enclosed dust-tight units are specified.

**F 4939**—Concentrating type reflector.

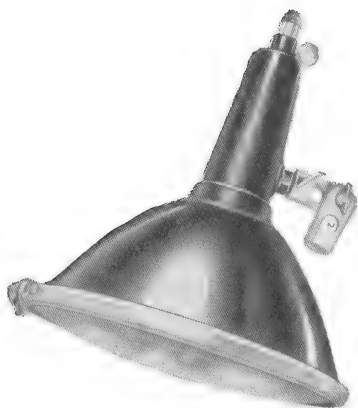
**F 4940**—Wide distribution type reflector.

Catalogue No.	Description	Weight	Dia. of reflector	Osram lamps recommended	Price each		
		lbs.	ins.	watts	£	s.	d.
<b>F 4939</b>	Without bracket .. ..	5 $\frac{1}{4}$	12	150/200	<b>2</b>	<b>8</b>	<b>0</b>
<b>F 4940</b>	Without bracket .. ..	5	10	150/200	<b>2</b>	<b>8</b>	<b>0</b>
<b>F 4941</b>	Bracket only for <b>F 4939/40</b>	3	—	—	<b>1</b>	<b>10</b>	<b>0</b>
—	Spare glass for <b>F 4939</b> ..	3 $\frac{1}{4}$	—	—	<b>1</b>	<b>17</b>	<b>6</b>
—	Spare glass for <b>F 4940</b> ..	3 $\frac{1}{4}$	—	—	<b>1</b>	<b>17</b>	<b>6</b>

**Prices include lampholders but not lamps.**

# S.E.C.

## INTENSOLUX AND PROJECTOLUX REFLECTORS



**F 4942/4**  
Intensolux



**F 4946**  
Projectolux

**F 4942/4** Intensolux Reflectors.

**APPLICATION.**—For the supplementary lighting of confined areas to considerably higher value of illumination than that from the general lighting of the room, or for inaccessible positions. Examples : Delivery Ends of Printing Presses, Dies of Stamping Presses, Baking Oven interiors, etc.

**F 4946** Projectolux Reflectors.

**APPLICATION.**—For the illumination of plane surfaces such as walls, ceilings, etc., from a grazing angle, *i.e.*, where the fitting is close to one end of the surface to be lighted. Specific examples of such applications are Spray Booth Lighting from outside ; Indirect Lighting for Hospital Operating Theatres, etc., Stage Lighting, Large Vertical Drawing Boards, Maps, Diagrams, etc., Picture Galleries and Furniture Finishing Conveyors.

**SPECIFICATION.**—Reflector in heavy gauge copper with chromium plated interior surface and green enamelled exterior.

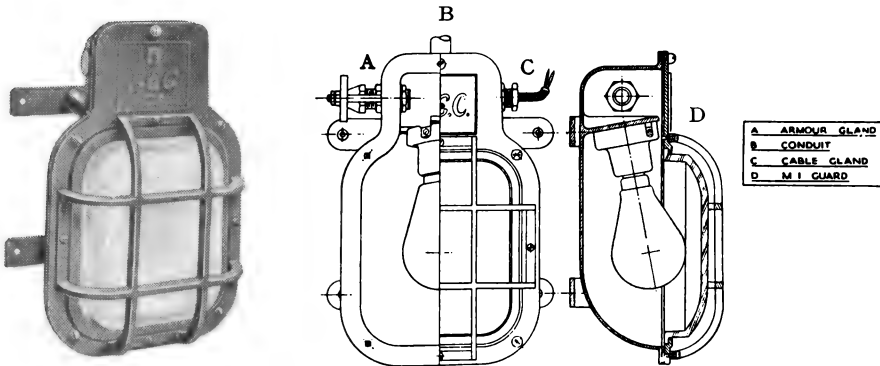
**F 4942/4.** Fitted with B.C. or E.S. adjustable lampholder, universal knuckle joint tapped  $\frac{1}{4}$  in. E.T. and Visor front which renders the fitting dust-tight.

**F 4946.** Fitted with skirted all-porcelain G.E.S. lampholder, special ribbed glass front lens and universal joint, enabling the unit to be tilted or rotated at any angle. The whole fitting is dustproof and is wired with length of special wire ready for connecting.

Catalogue No.	Diam.	Holder	Osram lamps recommended	Price each	
	ins.		watts	s.	d.
<b>F 4942</b>	9	B.C.	60–100	<b>42</b>	<b>0</b>
<b>F 4944</b>	12	E.S.	150–260	<b>63</b>	<b>0</b>
<b>F 4946</b>	12 $\frac{3}{4}$	G.E.S.	300	<b>84</b>	<b>0</b>

**Prices include lampholders but not lamps.**

# PRISMATIC BULKHEAD FITTINGS



**F 4951**

Sectional view of G.E.C. prismatic bulkhead fitting.

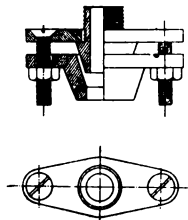
**SPECIFICATION.**—This prismatic bulkhead fitting has been designed to meet the demand for a fitting giving a wide lateral distribution of light. Suitable for illuminating confined areas, such as passages and tunnels. The fitting is of cast iron, "Silverlac" or galvanized finish. Can be used for either wall or ceiling mounting. It is completely watertight, as the glass is cemented into the front ring, and this in turn is fixed on to the body of the fitting by screws, and kept watertight by means of a rubber gasket. The glass has been produced after careful experiment and research, and is so designed that it produces the maximum side spread of light compatible with efficiency and minimum projection. The prisms are on the inside of the glass, the outer surface being smooth, so that collection of dust is reduced to a minimum, enabling the fitting to be easily kept clean. The fitting is tapped for  $\frac{1}{2}$  in. E.T. and is supplied complete with bayonet cap or Edison screw porcelain holder, as required. It is suitable for a 40-watt or 60-watt Osram gasfilled lamp. Unless otherwise specified, B.C. lampholders will be supplied.

Cat. No.	Description	Overall Dimensions			Weight complete	Price each					
		Width	Height	Depth		Silverlac finish			Galvanized finish		
<b>F 4951</b>	With Guard	8	11½	5½	13	£ 1	s. 2	d. 6	£ 1	s. 7	d. 9
	Without Guard	8	11½	5	12½		19	6	1	4	0
	Spare Glasses	5½	7	1½	1		3	6		—	—
	Spare Rubber Gaskets	—	—	—	—		1	0		—	—

Prices include B.C. or E.S. porcelain lampholders, but not lamps or cable glands.

## CABLE GLANDS

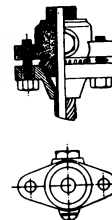
Cable glands, for above fitting, can be supplied, if required, to order. Size of cable being used should be specified when ordering.



**Type "A"**  
Malleable iron armour gland.  
2/6 each



**Type "C"**  
Brass cable gland.  
1/6 each.



**Type "E"**  
Brass armour clamp with sealing chamber  
3/9 each

# S.E.C.

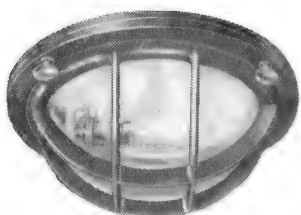
## BULKHEAD AND ROOF FITTINGS



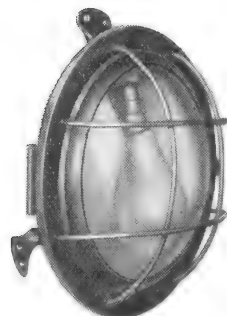
F 4943 (Clear)  
F 4945 (Cut Crystal)



F 4950



F 4947/9



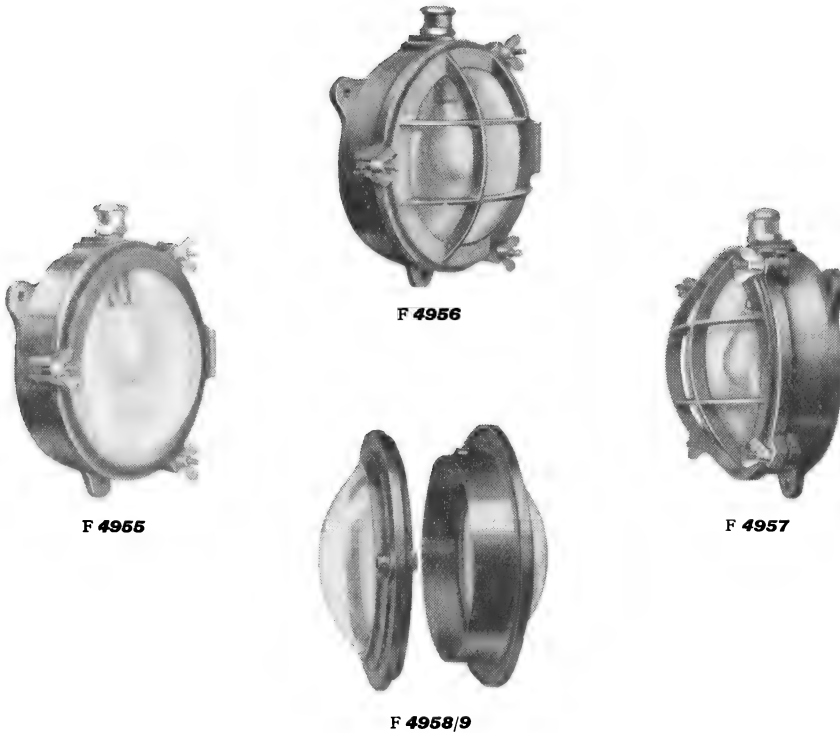
F 4965

**SPECIFICATION.**—These fittings are made in cast brass (except F 4947/9 which are cast iron finished Silverlac).

Catalogue No.	Description.	Diam. of front	Overall depth back to front	Weight complete	Price each
		ins.	ins.	lbs.	£ s. d.
F 4943	Polished Brass, one light, vitreous enamelled reflector inside, clear flint dish .. .. .	9 $\frac{3}{8}$	4	6	1 8 0
F 4945	Ditto, but with cut crystal dish .. .. .	9 $\frac{3}{8}$	4 $\frac{7}{8}$	6 $\frac{1}{2}$	2 5 0
F 4950	Black Bronze finish, one light, clear glass .. .. .	8	4	5 $\frac{3}{4}$	1 19 0
F 4947	Cast iron back and guard, one light .. .. .	11 $\frac{1}{4}$	4	12 $\frac{1}{4}$	1 1 0
F 4949	Ditto, but with brass guard .. .. .	11 $\frac{1}{4}$	4	11 $\frac{3}{4}$	2 2 6
F 4965	Black Bronze finish with guard, white vitreous enamelled reflector inside, clear glass .. .. .	9 $\frac{1}{4}$	4 $\frac{3}{4}$	5	1 11 6

**Pearl Osram lamps are recommended for use with these fittings.**  
**Prices include lampholders but not lamps.**

## BULKHEAD FITTINGS



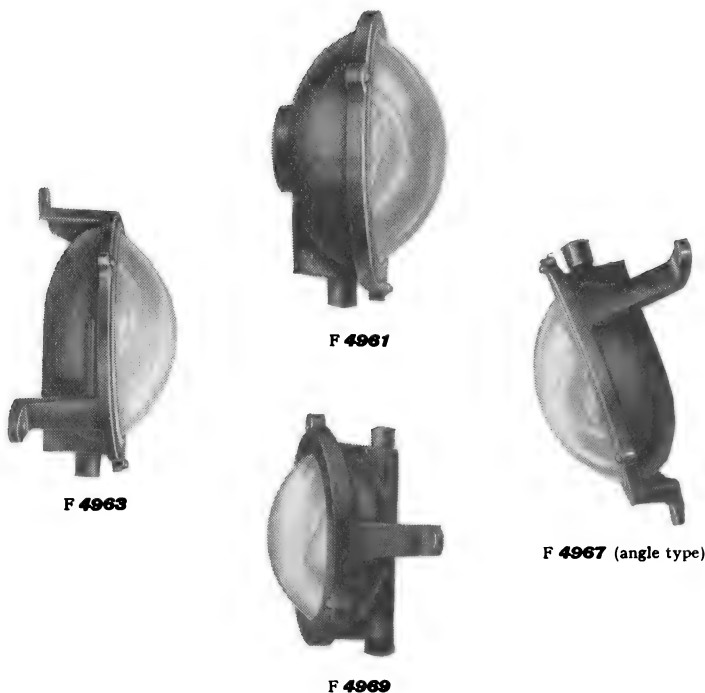
**SPECIFICATION.**—F 4955/6/7 bulkhead fittings are made in cast iron and fitted with watertight cable glands and heavy pattern clear glasses. They are arranged for one 60-watt or one 100-watt Pearl Osram lamp, or when fitted with two-way adaptor will take two lamps up to 60-watt size. Can be fitted with four ventilating cowls if required at **4/6** per fitting extra, and two-way adaptors, including lampholders, at **3/-** per fitting extra. Cable glands can be omitted if desired. Standard tapping  $\frac{1}{8}$  in. gas.

F 4958 and F 4959 are double-sided type bulkhead fittings and are made in polished brass or cast iron as required, and fitted with clear glasses. One side is hinged for access to interior, which is arranged for one 40-watt or one 60-watt Pearl Osram Lamp.

Cat. No.	Description	Diam. of front	Overall depth back to front	Weight complete	Price each					
					Silverlac finish			Galvanized finish		
		ins.	ins.	lbs.	£	s.	d.	£	s.	d.
F 4955	With hinged front secured by 3 brass wing nuts, without guard .. ..	10	5	11½	1	7	0	1	10	0
F 4956	Ditto. With guard .. ..	10	5½	13½	1	9	0	1	13	0
F 4957	With guard secured by 4 brass wing nuts .. ..	10	5½	13½	1	9	0	1	13	0
F 4958	Polished brass, double sided .. ..	9½	—	6½	1	15	0	—	—	—
F 4959	Cast iron ditto .. ..	9½	—	8	17	0	—	18	0	—

**Prices include lampholders but not lamps.**

## BULKHEAD FITTINGS

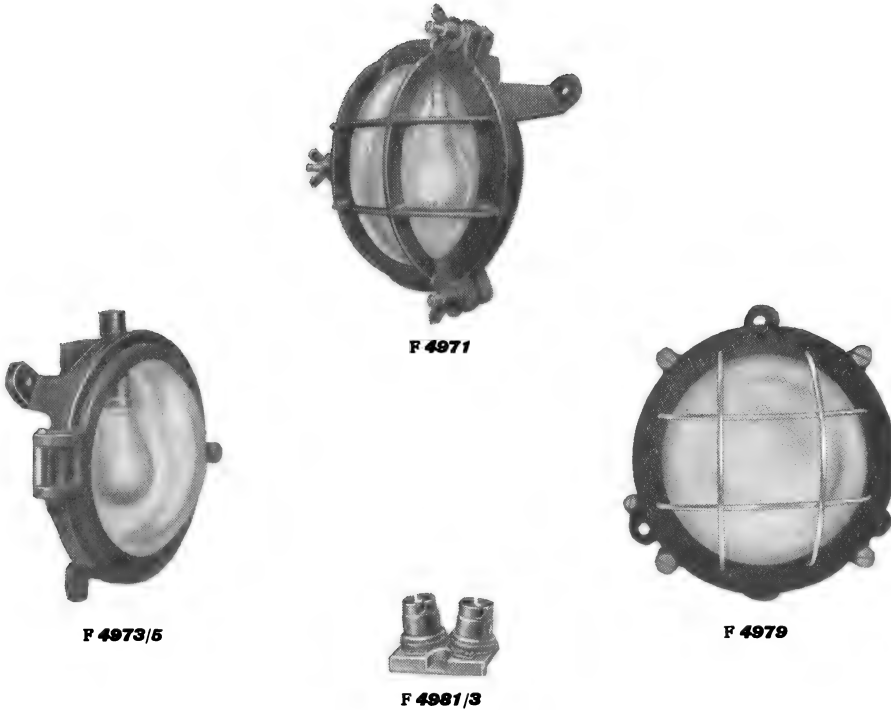


**SPECIFICATION.**—Standard finish for these fittings is "Silverlac" outside, stove enamelled white inside with clear glasses. Can also be supplied galvanized finish where stated below.

Cat. No.	Description	Diam. of front	Overall depth back to front	Weight complete	Price each			
					Silverlac finish		Galvanized finish	
		ins.	ins.	lbs.	£	s. d.	s. d.	
<b>F 4961</b>	Cast iron, 1-light, screwed $\frac{1}{2}$ in. E.T.	9	4 $\frac{1}{2}$	8 $\frac{1}{2}$		<b>9 9</b>	<b>11 3</b>	
<b>F 4963</b>	Cast iron, 1-light, without guard, screwed $\frac{1}{2}$ in. E.T. . . . .	9	5	8		<b>9 0</b>	<b>10 9</b>	
	Ditto. But with brass guard. . . . .	9	5 $\frac{1}{2}$	10		<b>15 3</b>	<b>17 9</b>	
<b>F 4967</b>	Cast iron, 1-light, screwed $\frac{1}{2}$ in. E.T.	9	4 $\frac{1}{2}$	8 $\frac{1}{2}$		<b>12 0</b>	<b>15 0</b>	
<b>F 4969</b>	Cast Iron, with "Through-way" for wires to simplify installing. 1-light, screwed $\frac{1}{2}$ in. E.T. . . . .	9 $\frac{1}{2}$	5 $\frac{1}{2}$	13 $\frac{1}{2}$		<b>14 6</b>	—	

**Prices include lampholders, but not lamps.**

# **BULKHEAD FITTINGS**



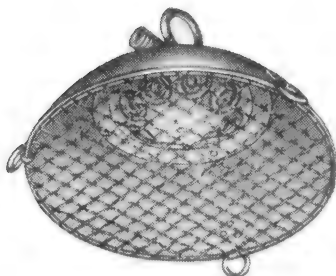
**SPECIFICATION.**—Standard finish for above is "Silverlac" outside, stove enamelled white inside, with clear glasses. Can also be supplied galvanized finish where stated below.

Cat. No.	Description	Diam. of front	Overall depth back to front	Weight complete	Price each					
					Silverlac finish			Galvanized finish		
<b>F 4971</b>	Cast iron, 1-light, screwed $\frac{1}{2}$ in. E.T.	ins. 8 $\frac{1}{2}$	ins. 5 $\frac{1}{2}$	lbs. 10 $\frac{1}{2}$	£	s.	d.	£	s.	d.
<b>F 4973</b>	Cast iron, 1-light, screwed $\frac{1}{2}$ in. E.T., without guard .. .. .	8 $\frac{1}{2}$	5	8 $\frac{1}{2}$			15 0			17 3
	Ditto. With guard .. .. .	8 $\frac{1}{2}$	6	10			18 0			1 1 0
	As <b>F 4973</b> , but with brass front, without guard .. .. .	8 $\frac{1}{2}$	5	10	1	1	6			—
<b>F 4975</b>	Ditto. With guard .. .. .	8 $\frac{1}{2}$	6 $\frac{1}{2}$	10 $\frac{1}{2}$	1	6	6			—
<b>F 4979</b>	Cast iron, 1-light to British Standards Specification No. 97/1926, without guard .. .. .	9 $\frac{1}{2}$	5	10 $\frac{1}{2}$			14 0			—
	Ditto. With brass guard .. .. .	9 $\frac{1}{2}$	5 $\frac{1}{2}$	11			17 6			—
<b>F 4981</b>	Cast iron fittings for converting <b>F 4961</b> , <b>F 4963/7/9</b> and <b>F 4971/</b> <b>3/5</b> to 2-light (without holders) ..	—	—	—			1 3			—
<b>F 4983</b>	Detachable holders .. .. .	—	—	—			1 0			—

Pearl Osrarn lamps up to 60 watts are recommended for use with these fittings.

**Prices include lampholders, but not lamps.**

## CARGO FITTINGS



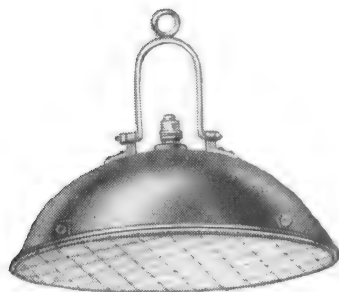
**F 4993**

New pattern, fully complying with Home Office requirements. Blue and white vitreous enamelled iron reflector, with brass fittings and strong hinged galvanized iron guard. The lampholders are mounted on a plate which is insulated from the reflector by moulded mica bushes. Reflector is bonded to dome, and efficient means are provided for earthing. Suitable for Pearl Osram lamps up to 60 watts.



**F 4997**

Blue and white vitreous enamelled iron reflector, galvanized cast iron cap with terminals.



**F 5001/3**

Blue and white vitreous enamelled iron reflector. Brass fittings and stout galvanized wire guard.

Catalogue No.	Diameter of reflector	Number of lights	Weight	Price each		
	ins.		lbs.	£	s.	d.
<b>F 4993</b>	20	6 (with lampholders)	17	<b>3</b>	<b>12</b>	<b>0</b>
	20	8 (with lampholders)	17	<b>3</b>	<b>14</b>	<b>0</b>
<b>F 4997</b>	18	3 to 5	9½	<b>1</b>	<b>16</b>	<b>0</b>
	24	3 to 8	12	<b>2</b>	<b>2</b>	<b>0</b>
<b>F 5001</b>	20	5 to 8 (with guard)	9	<b>2</b>	<b>5</b>	<b>0</b>
<b>F 5003</b>	20	5 to 8 (without guard)	8½	<b>2</b>	<b>0</b>	<b>0</b>

**Prices do not include lamps or lampholders, except where otherwise stated.**



**CARGO FITTINGS**



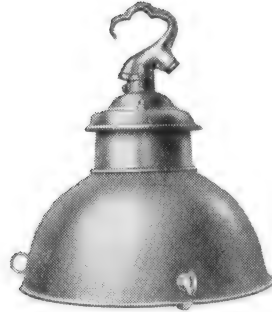
**F 4985**

Arranged for one 300-watt or 500-watt Osram lamp. Reflector made in iron, vitreous enamelled green outside, white inside. Supplied with stout galvanized wire guard, G.E.S. lampholder and anti-vibrator.

Diam. of reflector, 20ins.

Overall length, 24ins.

Weight, 11lbs.



**F 4987**

Arranged for one 100-watt Pearl Osram or 200-watt Osram lamp. Reflector made in iron, vitreous enamelled green outside, white inside. Supplied with stout galvanized wire guard, G.E.S. lampholder and anti-vibrator.

Diam. of reflector, 15ins.

Overall length, 16ins.

Weight, 16 lbs.

Catalogue No.	Description	Osram lamps recommended	Price each		
F <b>4985</b>	Cargo Reflector Fitting .. ..	watts 300-500	£	s.	d.
F <b>4987</b>	" " " " .. ..	100-200	<b>2</b>	<b>7</b>	<b>6</b>
			<b>2</b>	<b>2</b>	<b>6</b>

**Prices include lampholders but not lamps.**

## CARGO FITTINGS



**F 4989**

Arranged for one 200 watt Osram lamp. Reflector made in iron, vitreous enamelled green outside, white inside. Supplied with stout galvanized wire guard and anti-vibrator. Lampholder included.

Diam. of reflector, 18ins.

Overall length, 18ins.

Weight, 11½lbs.



**F 4991**

Throws a beam 70ft. diam. when slung at a height of 30ft., and therefore does not interfere with harbour lights.

For one 300-watt Osram lamp. Green and white vitreous enamelled iron reflector, with ventilated body and stout hinged wire guard.

Lampholder included.

Diam. of reflector, 14½ins.

Overall length, 19½ins.

Weight, 17lbs.

Catalogue No.	Description	Osram lamps recommended	Price each		
F 4989	Cargo Reflector Fitting .. ..	watts	£	s.	d.
F 4991	" " " " "	200	2	5	0
		300	4	5	0

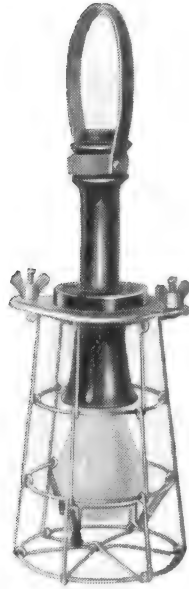
**Prices include lampholders, but not lamps.**

**S.E.C.**

## **FACTORY TYPE INSPECTION HANDLAMP**

*Patent No. 374116.*

**To comply with the Home Office regulations.**



**F 5024**

This handlamp has been designed to cover all the conditions encountered in factory and installation work. It comprises an ebonized hardwood handle, strong galvanized wire guard, cord grip and bakelite lampholder, together with a patent spring ring attachment for engaging the lamp and holding it in position in the lampholder. It is designed to accommodate a 40 or 60-watt Pearl Osram lamp with bayonet cap.

Some advantages of the device are as follows :—

1. The handlamp cannot be used unless the guard is properly secured in position.
2. If the bulb is shattered the lamp cap is automatically ejected out of the lampholder, so that no live parts are left exposed.
3. The operator is never faced with the problem of removing a lamp cap having jagged edges of glass attached.
4. If the bulb is only cracked, the retaining ring helps to hold the glass together, and thus prevents broken glass from falling into machinery or elsewhere.
5. The method of fixing the lamp provides an efficient buffer and shock absorber, which further protects and prolongs the life of the lamp.

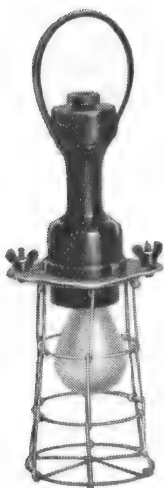
Catalogue No.	Weight	Pearl Osram lamps recommended	Price each	
F 5024	lbs. 1½	watts 40/60	s. 13	d. 6

**Price does not include lamp.**

**S.E.C.**

## SHOCK-PROOF HANDLAMPS

To comply with the Home Office regulations.



**F 5031/3**



**F 5035**



**F 5037/9**

Pearl Osram lamps, 25 or 40 watts, are recommended for use with these handlamps.

Cat. No.	Description	Weight	Price each	
		lbs.	s.	d.
<b>F 5031</b>	Ebonized wood handle, strong galvanized guard, without glass .. .. .	1 <sup>1</sup> / <sub>4</sub>	<b>8</b>	<b>9</b>
<b>F 5033</b>	As <b>F 5031</b> , but with clear glass .. ..	1 <sup>3</sup> / <sub>4</sub>	<b>10</b>	<b>0</b>
<b>F 5035</b>	Shock-proof fibre handlamp, the guard being made of strong insulating material. Can be thrown about without damage ; very light	<sup>3</sup> / <sub>4</sub>	<b>11</b>	<b>6</b>
<b>F 5037</b>	Without leather loop, but with cord grip ..	1	<b>14</b>	<b>0</b>
<b>F 5039</b>	With leather loop and cord grip .. ..	1	<b>15</b>	<b>0</b>

Edison screw lampholders can be supplied for **F 5031/9** at an extra cost of **1/6** each.

**Prices include B.C. lampholders but not lamps.**

**S.E.C.****SHOCK-PROOF HANDLAMPS**

Pearl Osram lamps, 25 or 40 watts, are recommended for use with these handlamps.

Cat. No.	Description	Weight	Price each	
		lbs.	s.	d.
<b>F 5041</b>	Ebonized wood handle, bakelite holder and leather loop .. .. .	1	<b>5</b>	<b>6</b>
<b>F 5042</b>	Bakelite body, wire guard and spring grip ..	1 $\frac{3}{4}$	<b>11</b>	<b>3</b>
<b>F 5044</b>	Similar in design to <b>F 5042</b> but with bakelite shrouded grip handle and stout ebonite guard .. .. .	1 $\frac{3}{4}$	<b>23</b>	<b>6</b>

**Prices include B.C. holders but not lamps.**

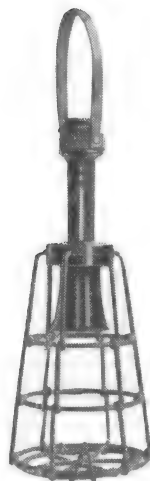
## BAKELITE SHOCK-PROOF HANDLAMPS



**F 5047**



**F 5051**



**F 5049**

The handlamps **F 5047** and **F 5049** have, after careful thought and consideration, been produced in oak finish moulded Bakelite, to meet present-day requirements. Each pattern complies with Home Office regulations and the following special features have been incorporated :—

1. The lampholder is fitted with a metal liner and a Bakelite shield which covers the lamp cap, thus minimizing the possibility of accidental contact with the hands of the operator.
2. The tinned wire guard, which is hinged at the bottom to facilitate lamp renewal, is held in position by fitting into slots between the moulded handle and the back-plate lampholder. The fixing screws are recessed on each side and cannot be removed by any unauthorised person.
3. The guard is in no way electrically connected with the lampholder. This obviates any risk of the operator receiving a shock should one of the live wires become detached in the holder.

**F 5047** is intended for general workshop and factory use where a shock-proof handlamp is necessary.

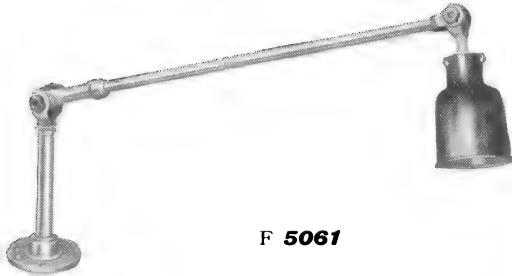
**F 5049** is identical to **F 5047**, except that the guard is plated with rubber by a special process.

**F 5051** headlamp has been specially designed for use in hospital wards and possesses many advantages over the older patterns which were fitted with wooden handles and brass lampholders. The reflector is made of spun aluminium, polished outside and frosted inside. It is secured between the bakelite handle and the lampholder by means of two recessed screws and nuts. The handle is fitted with a polished brass hook for hanging on bedrails, etc.

Cat. No.	Diameter	Overall length without loop	Weight	Pearl Osram lamps recommended.	Price each	
	ins.	ins.	lbs.	watts.	s.	d.
<b>F 5047</b>	5	13	$\frac{3}{4}$	40 or 60	<b>13</b>	<b>6</b>
<b>F 5049</b>	5	13	1	40 or 60	<b>18</b>	<b>0</b>
<b>F 5051</b>	$4\frac{1}{2}$	$11\frac{1}{2}$	$1\frac{1}{2}$	25 or 40	<b>16</b>	<b>6</b>

**Prices include B.C. lampholders but not lamps.**

## ADJUSTABLE WORKSHOP, STANDARD AND SEWING MACHINE BRACKET

**F 5061**

Machine Standard for local lighting.  
For use with W.2 transformer,  
230 volts to 12 volts.

Made in enamelled steel with aluminium reflector, 2½ins. × 2½ins., and S.B.C. lampholder for 12-volt lamps. The reflector is fitted to the bracket with a special neck which takes the strain off the holder.

Supplied with round base plate, 2½ins. diameter, for fixing to small B.S.I. conduit box if desired. Height of upright stem 6½ins., length of arm 16ins.

**9/6** each.

**Price of transformer on application.**

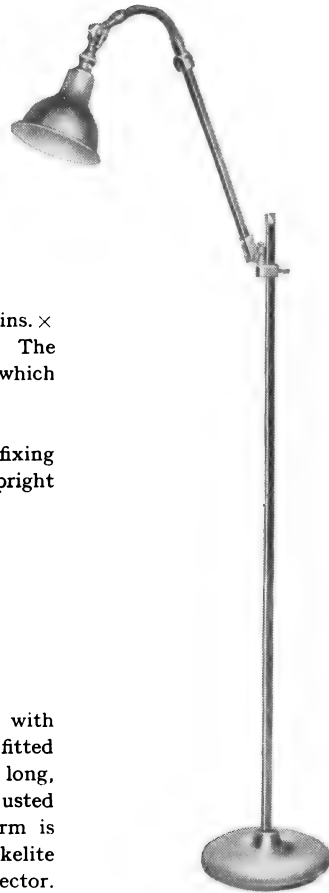
**F 5062**

Heavy pattern floor standard, finished black enamel, with 10in. diameter base (22 lbs.), 4ft. long upright stem fitted with sliding swivel ratchet, enabling the arm, which is long, to be raised or lowered on the vertical stem and adjusted as required. The flexible tube at the top of the arm is specially reinforced and fitted with knuckle joint, bakelite switch lampholder, and green and white finish metal reflector.

**£3 5s. 0d.** each.

A 40 or 60-watt Pearl Osram lamp is recommended for use with this standard.

**Prices include reflectors and lampholders, but not wiring or lamps.**

**F 5062**

Floor Standard

**S.E.C.**

## ADJUSTABLE WORKSHOP BRACKETS

(Prov. Patent No. 31450).



**F 5063**  
Showing type "A" base



**F 5064**  
Showing type "B" base

The above fittings have been introduced to meet the demand for a robust bracket capable of universal movement suitable for either workshop or office.

The adjustable arms consist of square section steel tube having the hinge lugs welded in position, thus affording extreme strength combined with lightness, and at the same time providing maximum protection for the cable, which is further safeguarded by a specially designed swivelling shackle which retains the cable in position and eliminates slack at the elbow. The construction of the elbow joints, in conjunction with an earthing screw on the base, enables all parts of the fitting to be efficiently earthed as required by factory regulations.

A light pattern concentrating type reflector, finished vitreous enamel, green outside, white inside, reduces weight at the extremity of the bracket and eliminates the tendency to sag when mounted on a vibrating machine or bench.

Maximum extension one arm 17½ins., two arm 27½ins., three arm 37½ins.

Fixing base Type "A" is standard for bench, wall or desk fixing. Type "B" consists of wrought iron bracket for wall fixing, and is provided with a conduit box tapped ¾in. E.T. at top. Side or through tapping can be supplied if required.

Standard finish is non-chipping dark green enamel with black relief.

Cat. No.	Base	Description	Price each								
			One arm			Two arm			Three arm		
F 5063	Type "A"	Supplied complete with concentrating type reflector and Bakelite B.C. lampholder ..	£	s.	d.	£	s.	d.	£	s.	d.
F 5064	Type "B"										
			19	3		1	1	9	1	4	0
			1	0	6	1	3	0	1	5	3

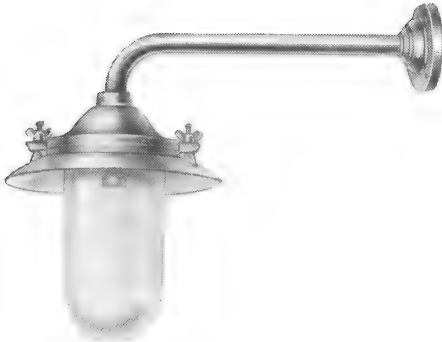
Can be supplied with Bakelite B.C. switch lampholder, if required, at 2/6 extra.

**Prices include lampholders, but not wiring or lamps.**



# BRACKETS

## FOR WATERTIGHT FITTINGS, ETC.



**F 5251**

### "UPLANDS"

Light iron bracket only,  $\frac{3}{4}$ in. E.T., with backplates  $3\frac{1}{2}$ ins. diam. on 9in. and 12in. and 4ins. diam. on 15in. and 18in. sizes.

Catalogue No.	Pro- jection	Silverlac finish. Price each		G'nized finish. Price each	
	ins.	s.	d.	s.	d.
<b>F 5251</b>	9	2	9	3	0
	12	3	0	3	3
	15	3	3	3	9
	18	3	6	4	3

Watertight fitting as illustrated, see page 589.



**F 5255**

### "UPSHIRE"

Light iron bracket only,  $\frac{3}{4}$ in. E.T., with backplates  $3\frac{1}{2}$ ins. diam. on 12in., and 4ins. diam. on 15in., 18in. and 24in. sizes.

Catalogue No.	Pro- jection	Silverlac finish. Price each		G'nized finish. Price each	
	ins.	s.	d.	s.	d.
<b>F 5255</b>	12	2	6	2	9
	15	3	0	3	6
	18	3	3	4	0
	24	3	6	4	3

Fitting as illustrated, see page 586.

## ANGLE TYPE BACKPLATE FOR CORNER FIXING

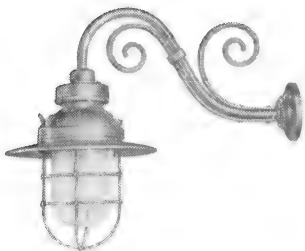
Catalogue No.	Thread				Price each	
<b>F 5257</b>	$\frac{3}{4}$ in. E.T.	..	..	..	s.	d.
	$\frac{3}{4}$ in. iron	..	..	..	4	3
	1in. iron	..	..	..	5	6
					14	3



**F 5257**

# S.&C.

## BRACKETS FOR WATERTIGHT FITTINGS, ETC.



**F 5253**

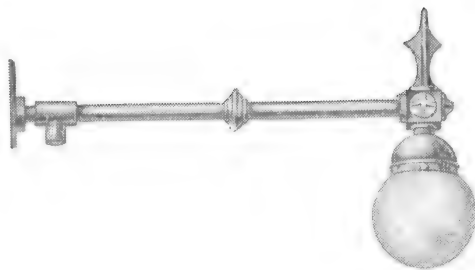
Catalogue No.	Projection	Tube	Approx. Weight	Price each Bracket only.	
<b>F 5253</b>	ins.		lbs.	s.	d.
	15	$\frac{1}{2}$ in. Gas	$4\frac{1}{2}$	<b>9</b>	<b>0</b>
	15	$\frac{3}{4}$ in. "	$5\frac{1}{2}$	<b>10</b>	<b>9</b>
	18	$\frac{3}{4}$ in. "	6	<b>18</b>	<b>0</b>
	24	$\frac{3}{4}$ in. "	8	<b>21</b>	<b>6</b>
	30	$\frac{3}{4}$ in. "	11	<b>24</b>	<b>0</b>

Round backplate  $4\frac{1}{2}$  ins. diam. on brackets with 15 ins. and 18 ins. projections.

Oblong backplate 6 ins.  $\times$  4 ins. on 24 ins. and 30 ins.

If fitted with **F 5257** angle backplate for corner fixing, **5/6** each extra.

Fitting as illustrated, see page 587.



**F 5260**

Catalogue No.	Projection	Size of tube	Size of backplate	Approx. weight	Price each Bracket only.	
<b>F 5260</b>	ins.		ins.	lbs.	s.	d.
	18	$\frac{3}{4}$ in. Gas	6 $\times$ 4	11	<b>11</b>	<b>9</b>
	24	$\frac{3}{4}$ in. "	6 $\times$ 4	12	<b>12</b>	<b>6</b>
	30	$\frac{3}{4}$ in. "	9 $\times$ 5	15	<b>14</b>	<b>6</b>

Tee inlet screwed  $\frac{3}{4}$  in. E.T. End of arm screwed  $\frac{3}{4}$  in. E.T.

For prices of galleries and globes see page 586.

The above are finished Silverlac.

**Prices do not include galleries or globes.**

## SPORTS LIGHTING

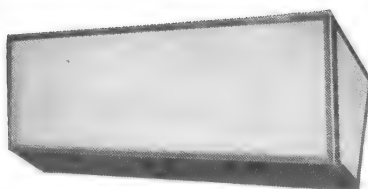
The problems of sports lighting, involving in many cases the illumination of small rapidly moving objects have received very special attention from the Illuminating Engineering Department of the Company, whose experts are in a position to advise on all problems connected with such lighting, whether for the benefit of players only or where the interests of spectators have also to be considered. Installations in use include many dog tracks and speedways, badminton and squash racquet courts, fives courts, boxing rings, cricket and football practice grounds, bowling and putting greens, curling rinks, swimming baths, etc., etc. Many of these installations can be satisfactorily carried out with standard equipment correctly used, but for others special equipment has had to be designed. Typical examples of such equipment are illustrated on this and the following page.

### BADMINTON FITTINGS

These fittings have been designed for the lighting of badminton courts. For a single court two single sided fittings are required, one at each end of the net mounted 8ft. from the ground. For fixing between two courts a double sided unit is available.

Each fitting is glazed with spreader glass at the ends and front, and is supplied complete with three porcelain E.S. holders to take 200-watt OSRAM lamps.

Fittings can be supplied for ceiling suspension, wall or post-top mounting.



**F 16465**

Catalogue No.	Description	Price each		
F <b>16465</b>	Single sided unit .. ..	£	s.	d.
F <b>16466</b>	Double sided unit .. ..	<b>3</b>	<b>7</b>	<b>6</b>
		<b>4</b>	<b>4</b>	<b>0</b>

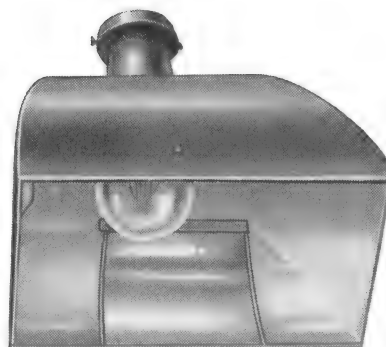
**Prices include lampholders but not lamps.**

# S.E.C.

## LIGHTING FITTINGS FOR GREYHOUND AND SPEEDWAY RACING TRACKS



F 4721



F 4723

F 4721/2 fittings have been specially designed to fulfil the requirements normally met with in the illumination of Greyhound Race Tracks and the like, where a brilliant, even intensity lighting is required over a comparatively narrow strip of ground, with the minimum wastage of light outside the area to be illuminated, and complete absence of glare in the eyes of spectators around the track.

The fitting is rectangular in shape, the shorter sides being fitted with mirror glass reflectors to punch the light as far as possible up and down the track, while the two long sides are glazed with opal glass reflectors to give a diffused light immediately below the fitting. The bottom of the side skirts is left matt black to eliminate the skirt glare which is experienced when vitreous enamelled or similar reflectors are used.

With the specially designed contour of the end mirrors the fittings can be spaced appreciably wider apart than is possible with vitreous enamelled units, without affecting the evenness of intensity between fittings.

F 4721 is designed for medium spacing and F 4722 for wide spacing.

F 4723 has been designed for speedway tracks and is a modification of F 4721 type. It covers the greater width of track required in speedway racing and similar sports.

Special pole mountings, which allow the fittings to be lowered to ground level during the daytime, can be quoted for on application.

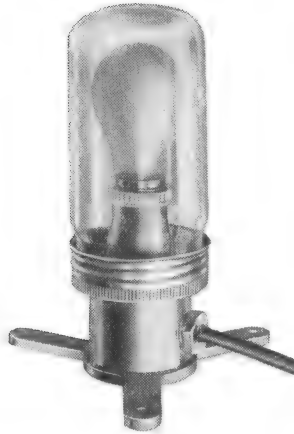
**SPECIFICATION.**—F 4721/2 fittings, consisting of sheet metal housing curved at back and front, and flat at sides, lined at ends with silvered mirror glass, and on upper sides with opal glass; lower skirt at sides painted matt black, finished stove enamelled green outside.

F 4723 is of similar construction to F 4721/2 but is fitted with a 3-way mirror glass reflector.

Catalogue No.	Dimensions			Weight complete	Osram lamps recommended	Price each		
	Length	Width	Overall height					
F 4721	ins. 16	ins. 12	ins. 18½	lbs. 13	} 500 to 1,500 watts	£	s.	d.
F 4722	16	12	20	13½		4	0	0
F 4723	24	18	18	18	1,000 or 1,500	4	17	6

**Prices do not include lampholders or lamps.**

## UNDERWATER LIGHTING UNITS



These small decorative lighting units are suitable for the underwater lighting of Fountains, Ornamental Pools, etc. They are designed to take clear or coloured Osram lamps up to 40 watts, and are supplied complete with cable glands to take twin 7/.012in. t.r.s., Class 872, Cat. No. W**9283**, flexible.

Catalogue No.	Finish	Overall height	Diam. of glass	Overall diam. of 3-way base	Weight	Price each With one cable gland	
F <b>5270</b>	Dull nickel .. ..	ins. 8½	ins. 3½	ins. 7	lbs. 3½	s. <b>19</b>	d. <b>6</b>

**S 1161 E.S. lampholder included.**

Ground spikes can be supplied if desired at **2/3** per set of three. Additional glands for straight through wiring, **2/6** each.

## FLOWER BED LIGHTING UNIT



**F 5272**

This unit has been designed for outlining flower beds, garden paths, etc. It consists of a metal base with spikes for fixing in the ground, and a flashed opal glass trough tinted amber, green, or white. The lampholders are suitable for 221 m/m Osram Striplite lamps.

Catalogue No.	Finish	Dimensions			Weight	With White Glass, each			With Amber or Green Glass, each		
		Length	Width	Depth							
F <b>5272</b>	Painted green ..	ins. 12	ins. 2½	ins. 2½ without spikes	lbs. 3½	£ <b>1</b>	s. <b>16</b>	d. <b>0</b>	£ <b>1</b>	s. <b>17</b>	d. <b>6</b>

**Prices include lampholders but not lamps.**

## SPARE GLASSES AND RUBBERS

The following prices are for spare glasses and rubbers for the various fittings shown in the preceding pages. For ease of reference the page number is given in the first column and the number of the fitting in the second column.

Page No.	Fitting No.	Description	Price Glasses only	Price Rubbers only
559	F 4711	"Gecoray" mirror reflector (Standard finish)	27/6 each	
559	F 4715	ditto ditto	55/- "	
582	F 4861	Superlux glass globe	16/6 "	
581	F 4868	Opal glass cube	25/- "	
583	F 4872/3/4	Clear well glass	10/6 dozen	3/- dozen
584	F 4875/6/7	ditto	12/- "	
585	F 4878/9/80	Clear globe	27/- "	
587	F 4881	Clear well glass	4/6 each	
587	F 4883	ditto	7/6 "	9/- dozen
587	F 4885	ditto	13/6 "	13/6 "
587	F 4887	ditto	2/3 "	7/6 "
587	F 4889	ditto	3/9 "	7/6 "
588	F 4891	ditto	3/- "	7/6 "
589	F 4892	ditto	1/6 "	7/6 "
588	F 4895	ditto	3/- "	7/6 "
589	F 4896	ditto	1/6 "	7/6 "
588	F 4899	Ground glass ruby letters	55/- "	
588	F 4899	Ruby glass ground letters		
588	F 4903	Clear well glass	3/9 "	
588	F 4909	ditto	10/6 dozen	3/- "
588	F 4910	ditto	1/6 each	7/6 "
589	F 4911	ditto	10/6 dozen	3/- "
589	F 4913	ditto	10/6 "	3/- "
589	F 4915	ditto	10/6 "	3/- "
589	F 4917	ditto	10/6 "	3/- "
589	F 4919	ditto	10/6 "	3/- "
591	F 4932/4	ditto	21/- "	
591	F 4936	ditto	3/6 each	
596	F 4943	Clear glass dish	3/- "	
596	F 4945	Cut crystal dish	20/- "	
596	F 4947/9	Clear bulkhead glass	3/- "	
596	F 4950	ditto	4/9 "	
595	F 4951	Prismatic bulkhead glass	3/6 "	12/- "
598	F 4961/3	Clear bulkhead glass	24/- dozen	9/- "
596	F 4965	ditto	4/- each	
598	F 4967	ditto	24/- dozen	9/- "
598	F 4969	ditto	24/- "	9/- "
599	F 4973/5	ditto	25/6 "	
599	F 4979	ditto	33/- "	
597	F 4955	ditto	29/6 "	30/- "
597	F 4956	ditto	29/6 "	30/- "
597	F 4957	ditto	29/6 "	30/- "
597	F 4958	ditto	108/- "	
597	F 4959	ditto	25/6 "	
604	F 5033	Clear well glass	10/6 "	3/- "

**G.E.C.**

## **“GECORAY” SILVERED GLASS REFLECTORS**

Gecoray silvered glass reflectors are manufactured entirely in England, of the finest material and workmanship.

The glass used is of the highest quality—an important point because the rays of light have to pass through it to the silvered backing from which they are reflected back again practically without absorption, to provide the maximum possible light flux for direction on to the merchandise forming the window display.

The flutings of the glass are the result of careful experiment and design. Whilst they ensure even illumination without unpleasant shadows, the rays of light are permitted to be immediately reflected back on to the merchandise and not trapped in the glass.

The silvering process is one on which the most exhaustive tests have been carried out. The silver is actually adhered to the glass by a special patented process, and thereby ensures the brilliancy of the reflecting surface throughout its life. The silver is protected by a deposit of copper.

As an indication of the care which is taken to ensure absolute reliability in service, specimen GECORAY Reflectors of all types are submitted to a test which involves their being placed in an atmosphere of sea spray with a 750 watt electric heater element in the position normally occupied by the lamp bulb. This heater element is turned on and off for alternate hours, and any reflector on which the silvering shows signs of deterioration in any form in less than 300 hours of this extremely rigorous test is discarded. Many competitive reflectors at present on the market have been submitted to this same test and failed to retain their silvering for 24 hours.

Gecoray Reflectors are the most reliable and scientifically accurate reflectors known, and the silvering is guaranteed for five years not to check, peel or tarnish.

### **SOME OF THE SALIENT FEATURES OF GECORAY REFLECTORS ARE :—**

**ECONOMY.**—GECORAY Reflectors make the maximum use of the current consumed. There is positively no light wasted.

**DESIGN.**—All light flux is used and placed exactly where it is most wanted.

**SILVER PLATING.**—The plating with pure silver on the polished glass surface by a special process makes for maximum efficiency, and ensures the brilliancy being retained.

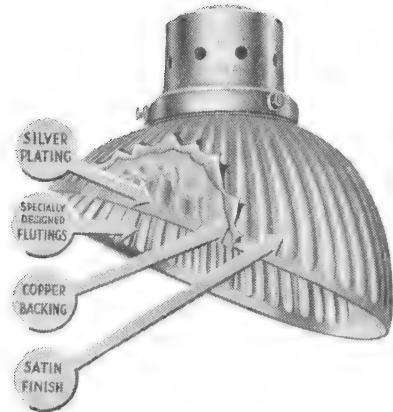
**COPPER PLATING.**—Heavy plated pure copper, electro-deposited over the silver, ensuring permanency.

**SPECIALLY DESIGNED FLUTINGS.**—Ensure the whole of the light being redirected.

**CRYSTAL GLASS.**—Of high quality, clear, sparkling and uniform, absorbing minimum amount of light.

**DISTINCTIVE FINISH.**—Silver Colour Satin Finish. This finish harmonizes with any surroundings, and possesses remarkable lasting properties.

**GUARANTEE.**—They carry a guarantee not to check, peel or tarnish for Five years.





## **"GEC<sup>o</sup>RAY" SHOP WINDOW LIGHTING SYSTEM**

The "GEC<sup>o</sup>RAY" SYSTEM depends on the effective utilization of electric lighting for shop window purposes on the reflector principle. It is designed to direct light with the utmost efficiency, precisely where it is needed, embracing, according to requirements, every part of the window from top to bottom and back to front. Used with the type of lamp for which each reflector is rated, it ensures even, brilliant, yet soft illumination, which is soothing to the eyes and at the same time succeeds in bringing out to the full the tone, texture and salient selling points of whatever goods may be shown.

The "GEC<sup>o</sup>RAY" silvered glass reflector, of itself, marks a definite advance in the art of lighting, but by the simple addition of colour screens, effects can be obtained with ease and speed which give real distinction to any display. Such colour schemes can be adapted to suit any required purpose or type of window display, and by the use of a motor-flasher colour changes can be effected at pre-determined intervals with very striking results. For directing attention to some particular feature, a flood-light or a spot-light can be employed to illuminate it with more pronounced intensity. The attention-compelling value of a window is greatly increased in this way.

Detailed particulars of the window lighting equipment referred to are given in the following pages. They will be found to solve the problem of shop window lighting completely—the result of long experience and tireless investigation on the part of the Illuminating Engineering Department of the G.E.C. This department is willing at all times to give the benefit of its experience to the shopkeeper by advising him on any of the many problems with which he is continually confronted.

The GEC<sup>o</sup>RAY SYSTEM of shop window lighting is demonstrated in a practical manner at the Head Office of the G.E.C. in London, and at the principal branches of the Company. Windows are equipped so that the whole range of the system's lighting effects can be revealed under conditions approximating as nearly as possible to those prevailing in actual practice. They furnish convincing evidence that the system can be adapted to meet any particular requirement. Such a demonstration service should prove particularly interesting to Architects, Consulting Engineers, Electrical Contractors and others whom it affects in a professional capacity, and a cordial invitation is extended to all to make free use of the facilities offered in this direction.

## **"GEC<sup>o</sup>RAY" REFLECTORS FOR CONCEALED AND INDIRECT LIGHTING**

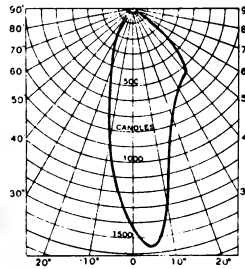
A range of "GEC<sup>o</sup>RAY" reflectors specially designed for various schemes of concealed lighting by means of cornices, wall brackets, etc. is also described in this catalogue. These have been carefully designed to produce the best results for this work. The Illuminating Engineering Department of the G.E.C. will be pleased to collaborate or prepare schemes in connection with all kinds of concealed lighting.



## GEC°RAY REFLECTORS



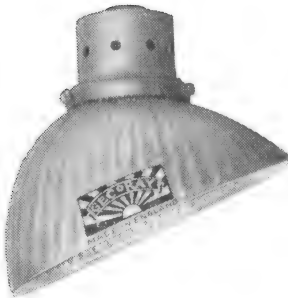
**F 5601**



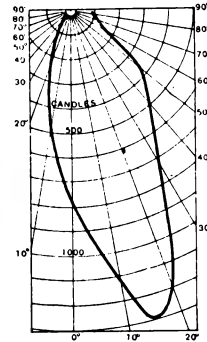
**F 5601**

Distribution curve

For high shallow windows and medium dressing. Designed to accommodate one 100-watt PEARL OSRAM Lamp.  
Height  $8\frac{1}{2}$  inches. Width  $9\frac{1}{2}$  inches.



**F 5603**

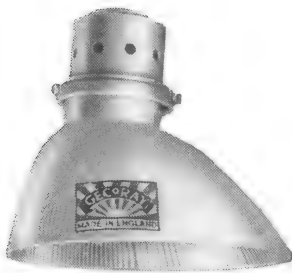


**F 5603**

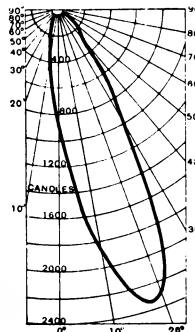
Distribution curve

For average windows, the depth of which is one-half to three-quarters of the height. Designed to accommodate one 100-watt PEARL OSRAM Lamp.

Height  $8\frac{1}{2}$  inches. Width 9 inches.



**F 5605**



**F 5605**

Distribution curve

For general illumination as F 5601/3 but flush mounting.

Height 8 inches. Width 9 inches.

**F 5601** with gallery for 100-watt Pearl Osram lamp. **21/-** each

**F 5602** as above, but with Patent adjustable gallery for 100-watt or 150-watt Osram lamp. **22/-** each

**F 5607/8** as F 5601 but in Ruby or Amber glass with lead-backed exterior. Recommended for Butchers or Fishmongers shops, where a touch of colour is required.

**F 5607** in Ruby glass with gallery for 100-watt Pearl Osram lamp. **30/6** each

**F 5608** in Amber glass with gallery for 100-watt Pearl Osram lamp. **30/6** each.

**F 5603** with gallery for 100-watt Pearl Osram lamp **21/-** each.

**F 5604** as above but with Patent adjustable gallery for 100-watt or 150-watt Osram lamp. **22/-** each.

**F 5609** in Ruby glass with gallery for 100-watt Pearl Osram lamp. **30/6** each.

**F 5610** in Amber glass with gallery for 100-watt Pearl Osram lamp. **30/6** each.

**F 5605** with gallery for 100-watt Pearl Osram lamp. **21/-** each

**F 5606** as above, but with Patent adjustable gallery for 100-watt or 150-watt Pearl Osram lamp. **22/-** each.

For flush mounting rings, see page 624

Registered designs.

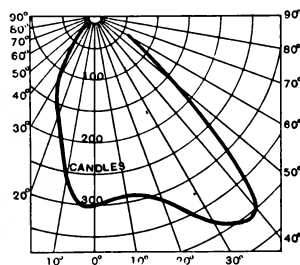
**Prices do not include lampholders or lamps.**

# S.E.C.

## GEC<sup>o</sup>RAY REFLECTORS



**F 5611**



**F 5611**

Distribution curve

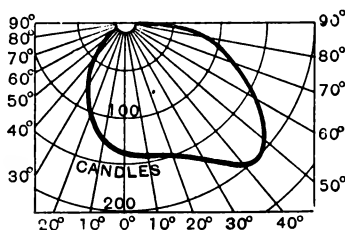
For high shallow windows and medium dressing. Designed to accommodate one 60-watt PEARL OSRAM Lamp.

Height 7½ inches. Width 7½ inches.

**F 5611** with gallery, for  
60-watt Pearl Osram lamp  
**16/6** each



**F 5613**



**F 5613**

Distribution curve.

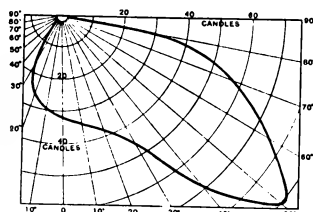
For small windows. Designed to accommodate one 60-watt PEARL OSRAM Lamp.

Height 6½ inches. Width 5½ inches.

**F 5613** with gallery, for  
60-watt Pearl Osram lamp  
**15/-** each



**F 5615**



**F 5615**

Distribution curve

For small shallow windows and cornice lighting.

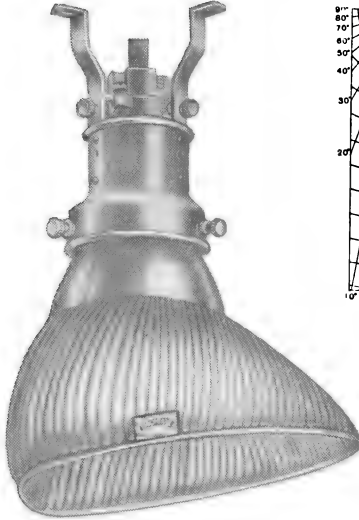
Height 5 inches. Back to front 3½ inches.

**F 5615** with gallery for  
25-watt Pearl Osram lamp  
**15/-** each

Registered designs.

**Prices do not include  
lampholders or lamps.**

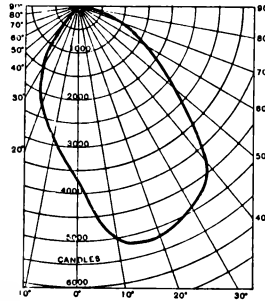
# GEC<sup>o</sup>RAY REFLECTORS



**F 5621**

For high shallow windows. Designed to accommodate one 300-watt or one 500-watt OSRAM Lamp.

Height 17½ inches.  
Width 12 inches.

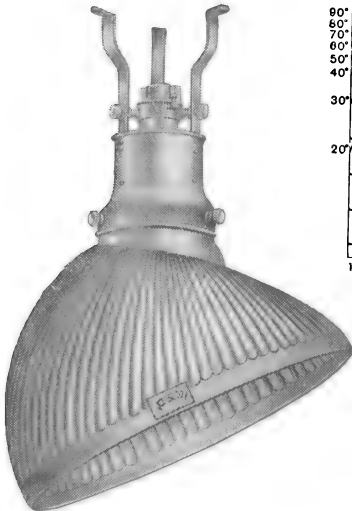


**F 5621**

Distribution curve  
with 500-watt clear  
OSRAM Lamp.

**F 5621** with gallery and  
G.E.S. lampholder, for  
one 300-watt or one 500-  
watt Osram lamp.

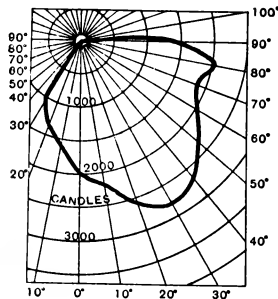
**78/6** each



**F 5623**

For average windows. Designed to accom-  
modate one 300-watt or one 500-watt  
OSRAM Lamp.

Height 17½ inches.  
Width 12 inches.



**F 5623**

Distribution curve  
with 500-watt clear  
OSRAM Lamp.

**F 5623** with gallery and  
G.E.S. lampholder for one  
300-watt or one 500-watt  
Osram lamp.

**78/6** each

Registered Designs.

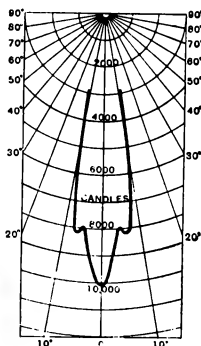
**Prices do not include lamps.**

# G.E.C.

## GEC°RAY REFLECTORS



**F 5631**



**F 5631**

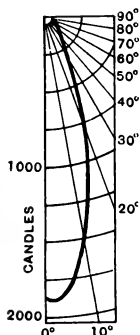
Distribution curve

**F 5631**  
Designed for obtaining concentrated floodlighting effects. It is supplied complete with universal bracket, and can be fixed to any flat surface, either vertical or horizontal. Designed for use with one 150/200 watt OSRAM general service lamp for normal floodlighting purposes or for 250-watt OSRAM class B1 projector lamp where highly concentrated illumination is required. Diameter of reflector 10 ins.

**F 5631** with bracket and E.S. lampholder for one 150 or 200-watt OSRAM lamp .. **47/6** each  
Reflector only .. **24/-** each



**F 5633**

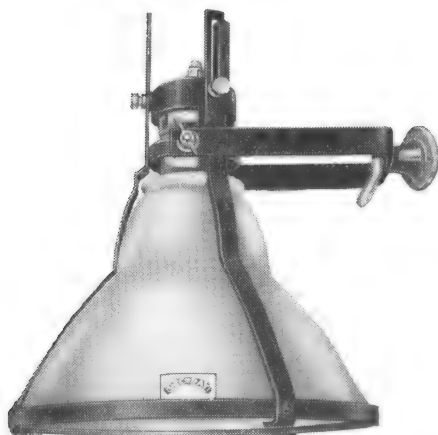


**F 5633**

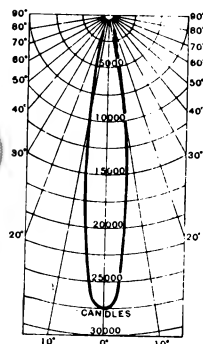
Distribution curve

**F 5633**  
Similar to **F 5631**, but arranged for one 100-watt PEARL OSRAM Lamp. Diameter of reflector 8 ins. Patent No. 368956

**F 5633** with bracket and B.C. lampholder for one 100-watt PEARL OSRAM Lamp .. **32/6** each  
Reflector only .. **17/6** each



**F 5635**



**F 5635**

Distribution curve.

**F 5635** Similar to types **F 5631/3** but arranged for one 300/500 watt OSRAM Lamp. Diameter of reflector, 13½ ins.

**F 5635** with bracket and G.E.S. lampholder for one 300 or one 500-watt OSRAM Lamp **105/-** each  
Reflector only **63/-** each

**Prices do not include lamps.**

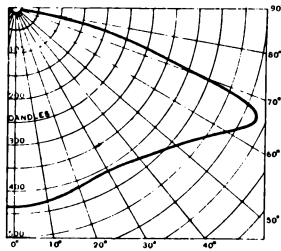
# GEC°RAY REFLECTORS



**F 5651**

Reflectors with wide angle distribution for direct or indirect lighting.  
Width 10 inches. Height 6½ inches.

5 in. lip.



**F 5651**

Distribution curve.  
with 100-watt Pearl OSRAM lamp.

F 5651 reflector only for  
one 100/200 watt Osram  
lamp. **27/6** each

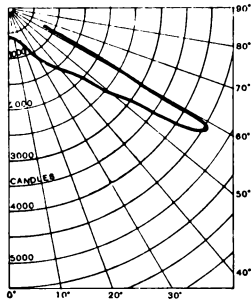
Can also be supplied with  
special satin finish reflect-  
ing surface where addi-  
tional diffusion is required.  
**30/-** each.



**F 5653**

Similar to F 5651 but for 300-watt or 500-watt Osram Lamps.  
Width 14 inches. Height 9½ inches.

5 in. collar.



**F 5653**

Distribution curve  
with 500-watt clear OSRAM lamp.

F 5653 reflector only for  
one 300/500-watt Osram  
lamp. **55/-** each

Can also be supplied with  
special satin finish reflect-  
ing surface **59/-** each

**G.E.C.**

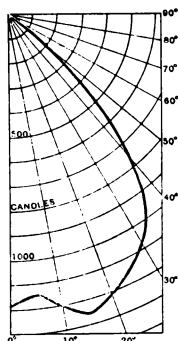
## GEC°RAY REFLECTORS



**F 5641**

Distributing type reflector for indirect lighting or flush mounting.  
Designed for one 150/200-watt Osram Lamp.

Height { 150w., 8½ inches.      Diameter 9½ inches.  
          { 200w 9½ inches.

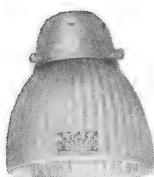


**F 5641**

Distribution curve

**F 5641** with adjustable gallery for one 150-watt or one 200-watt Osram lamp.

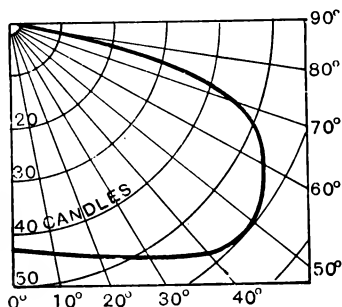
**24/-** each



**F 5643**

Distributing type reflector for flush mounting. Designed for one 25/40 watt Pearl Osram Lamp.

Height 4½ inches.



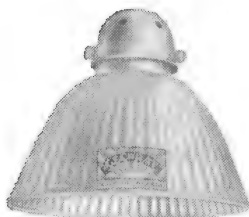
**F 5643**

Distribution curve

Diameter 4½ inches.

**F 5643** with gallery for one 25/40-watt Pearl Osram lamp.

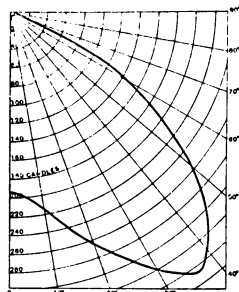
**16/6** each



**F 5645**

Distributing type reflector for indirect lighting or flush mounting.  
Designed for one 100-watt Pearl Osram Lamp.

Height 5½ inches.



**F 5645**

Distribution curve

Diameter 7 inches.

**F 5645** with gallery for one 100-watt Pearl Osram lamp.

**21/-** each

**Prices do not include lampholders or lamps.**

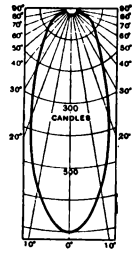
## GECORAY REFLECTORS

**F 5661** with gallery for one  
60/75-watt Pearl Osram lamp.  
**17/6** each.



**F 5661**

For concealed lighting where a concentrated beam is required for long throw projection and for illumination of notice boards, etc. Diameter 6½in. Length 7½in. Depth 3½in.



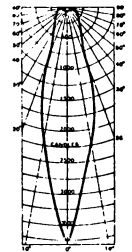
**F 5661**  
Distribution curve

**F 5663** with gallery for one  
100-watt Pearl Osram lamp.  
**19/6** each

**F 5664** with gallery for one  
150-watt Osram lamp.  
**19/6** each



**F 5663/4**

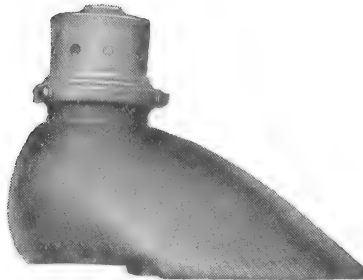


**F 5663/4**  
Distribution curve

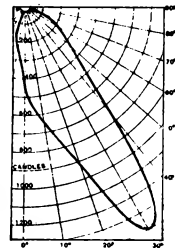
As **F 5661** but for 100/150-watt Osram Lamp.  
Diameter 7in. Length **F 5663** 8in. **F 5664** 8½in.  
Depth 3½in.

**F 5665** with adjustable gallery for  
100/150-watt Osram lamp.  
**34/6** each

**F 5666** with gallery for 200-watt  
Osram lamp .. **36/-** each



**F 5665/6**

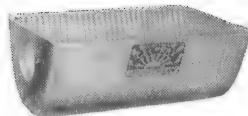


**F 5665**  
Distribution curve

Reflector for Indirect wall bracket illumination.

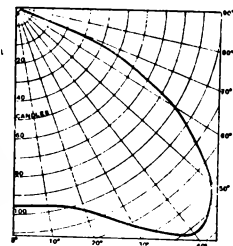
Height { 100-watt size, 8in.  
150 " " 8½in.  
200 " " 10½in.  
Length, back to front, 11in.

**F 5667** reflector only, 1½in. hole  
for 40/60-watt Pearl Osram lamp  
**19/6** each



**F 5667**

For indirect cornice lighting where wide distribution is required.  
Length 6½in. Width 4½in. Depth 2½in.

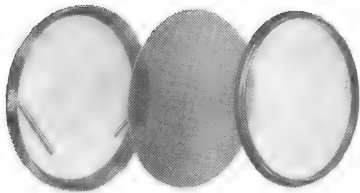


**F 5667**  
Distribution curve

**Prices do not include  
lampholders or lamps.**

# G.E.C.

## GEC<sup>o</sup>RAY COLOUR SCREENS



**F 5681/2**



**F 5603 "GEC<sup>o</sup>RAY" Reflector fitted with Colour Screen.**

These colour screens, which have been designed for use with "GEC<sup>o</sup>RAY" Reflectors, are of neat design and easily fitted without removing the reflector. The colour film is held in place between two rings with retaining wires stretched across the openings of each ring. Four colour films of assorted colours (red, amber, green and blue) are supplied with each colour screen.

<b>F 5681</b> "GEC <sup>o</sup> RAY" colour screen, complete with 4 colour films. For use with <b>F 5601/3</b> and <b>F 5631</b> reflectors	<b>8/6</b> each.
<b>F 5682</b> "GEC <sup>o</sup> RAY" colour screen, complete with 4 colour films. For use with <b>F 5611</b> and <b>F 5633</b> reflectors	<b>6/9</b> each
Spare colour films for <b>F 5681</b> .. .. .	<b>10/-</b> doz.
Spare colour films for <b>F 5682</b> .. .. .	<b>7/6</b> ..

## GEC<sup>o</sup>RAY GLASS COLOUR SCREENS

"GEC<sup>o</sup>RAY" glass colour screens consist of a metal ring as described for **F 5681** carrying a one piece glass screen.

These screens give brilliant colour effects and provide a really permanent installation.

<b>F 5683</b> "GEC <sup>o</sup> RAY" colour screen complete with one colour. For use with <b>F 5601/3</b> and <b>F 5631</b> reflectors.	
Red or Orange .. .. .	<b>9/-</b> each
Blue or Green .. .. .	<b>8/-</b> ..
Spare Glasses—	
Red or Orange .. .. .	<b>4/-</b> each
Blue or Green .. .. .	<b>3/-</b> ..

## FLUSH MOUNTING RINGS AND LOUVRES FOR "GEC<sup>o</sup>RAY" REFLECTORS



**F 5685**



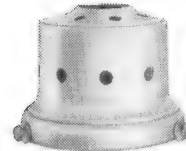
**F 5689**

<b>F 5685</b> Flush mounting ring for <b>F 5605</b> reflectors. Satin Silver colour .. .. .	<b>1/9</b> each.
<b>F 5687</b> Flush mounting ring for <b>F 5605</b> reflectors with detachable glass colour screen.	
With one colour (red or orange) ..	<b>10/6</b> each.
do. (blue or green) ..	<b>9/6</b> each.
<b>F 5689</b> Louvres for fixing to <b>F 5631</b> reflectors.	
Black .. .. .	<b>11/3</b> each.

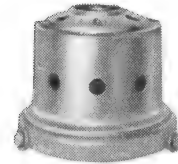


# GEC<sup>o</sup>RAY REFLECTOR GALLERIES

Type	Size	Price per Dozen.
Gallery only for— F <b>5601</b> F <b>5603</b> F <b>5605</b> F <b>5607/8</b> F <b>5609/10</b>	inches 3 $\frac{1}{4}$ × 1 $\frac{1}{8}$	Satin alumin- ium finish s. d. <b>18 0</b>
Gallery only for— F <b>5602</b> F <b>5604</b> F <b>5606</b> F <b>5665</b>	3 $\frac{1}{4}$ × 1 $\frac{1}{8}$	<b>30 0</b>
Gallery only for— F <b>5641</b>	3 $\frac{1}{4}$ × $\frac{1}{2}$ brass thread	<b>48 0</b>
Gallery only for— F <b>5666</b>	3 $\frac{1}{4}$ × $\frac{5}{8}$ brass thread	<b>57 0</b>
Gallery only for— F <b>5611</b> F <b>5613</b> F <b>5615</b> F <b>5643</b> F <b>5645</b> F <b>5664</b>	2 $\frac{1}{4}$ × 1 $\frac{1}{8}$	<b>12 0</b>
Gallery only for— F <b>5661</b> F <b>5663</b>	2 $\frac{1}{4}$ × 1 $\frac{1}{8}$	Polished brass <b>22 6</b>



Gallery for F **5601**, etc.



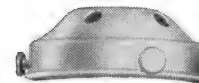
Gallery for F **5602**, etc.



Gallery for F **5641**



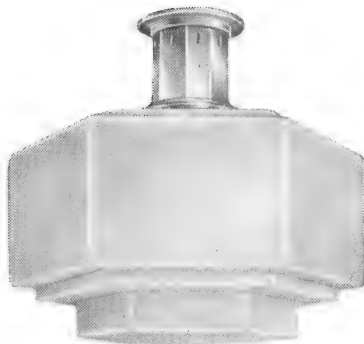
Gallery for F **5611**, etc.



Gallery for F **5661**, etc.

**G.E.C.**

## **ENCLOSED LIGHTING FITTINGS**



A selection of enclosed units of the highest efficiency for shop and store lighting is described in pages 627 to 634.

The glass is manufactured in England and the Research Laboratories of the G.E.C. have made a very special study of the properties of opal glass in relation to light absorption, evenness of diffusion etc., as a result of which the Company is able to offer lighting fittings with the greatest possible light output.

Special attention is drawn to the fitting on page 633 designed to give a high intensity directly on to the working plane without the usual disadvantage of unpleasant surface brightness on the glass.

The Britalux series includes opal glass, whilst in the Superlux and Unalux series, the glass has an attractive egg shell finish. The canopies incorporated in these fittings are made of copper to ensure long life and good service, and ceiling plates for British Standard conduit boxes (2" centre fixing holes) can be supplied on request for all types illustrated.

These types, it should be pointed out, are by no means the complete range manufactured by the G.E.C. They are merely representative of existing patterns, and additions are constantly being made, varying not only in decorative appearance but also in the nature of the light distribution.

Illustrations and particulars of a more extended range of these fittings will be forwarded on application.

**S.E.C.**

## ENCLOSED PENDANT FITTINGS

"BRITALUX" low absorption white opal glassware.



**F 7231/5**

### WALTON.

Antique Brass Metalwork.

"Britalux" low absorption opal glassware.



**F 9937/40**

### VENEAGLE.

Antique Brass Metalwork.

"Britalux" low absorption opal glassware.

Cat. No.	Dia.	Osram lamps recommended	Price each		Spare glasses, each	
			£	s. d.	£	s. d.
<b>F7231</b>	12	100	1	7 0	9	6
<b>F7233</b>	14	150 or 200	1	10 0	13	6
<b>F7235</b>	16	200 or 300	1	19 0	17	6

Cash's Chain.

Cat. No.	Dia.	Osram lamps recommended	Price each		
			£	s.	d.
<b>F 9937</b>	10	60		15	6
<b>F 9938</b>	12	100		19	6
<b>F 9939</b>	14	150 or 200	1	4	0
<b>F 9940</b>	16	200	1	10	0

Oval Link Chain.

Length 42 inches overall.

The above fittings can be supplied, if desired, with **F 3639** Ceiling Plates for use with British Standard Conduit Boxes (2-in. centre fixing).

**Prices do not include lampholders or lamps.**

# S.E.C.

## ENCLOSED PENDANT FITTINGS

Low absorption white opal glassware.



F 9965/8

**LOCHNIEL**

Real Bronze Colour.

Cat. No.	Dia.	Osram lamps recommended	Price each		Spare Glasses, each
	ins.	watts.	£	s. d.	s. d.
F9965	10	60	1	5 0	10 6
F9966	12	100	1	8 6	12 0
F9967	14	150 or 200	1	12 6	16 0
F9968	16	200	2	2 0	22 0

Registered Design Nos. 774519, 774521.



F 9971/3

**HELIOPSIS**

Real Bronze Colour.

Cat. No.	Dia.	Osram lamps recommended	Price each		Spare Glasses, each
	ins.	watts	£	s. d.	s. d.
F9971	12	100	1	11 6	15 0
F9972	14	150 or 200	1	19 0	22 6
F9973	16	200	2	9 6	29 6

Registered Design Nos. 774519, 774520.

Length, 42 inches overall.

**Prices do not include lampholders or lamps.**

# ENCLOSED PENDANT FITTINGS

**" BRITALUX " low absorption white opal glassware.**



**F 9980/3**

**BONFORD.**

**Antique Brass Metalwork**



**F 9984/7**

**DELMA.**

**Chromium Plated Metalwork.**

Cat. No.	Dia.	Osram lamps recommended	Price each			Spare glasses, each	Catalogue No.	Dia.	Osram lamps recommended	Price each			
<b>F9980</b>	ins. 8	watts 40/60	£	s.	d.	s.	d.	<b>F 9984</b>	ins. 8	watts 40/60	£	s.	d.
<b>F9981</b>	10	60/100	<b>1</b>	<b>1</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>F 9985</b>	10	60/100	<b>1</b>	<b>5</b>	<b>6</b>
<b>F9982</b>	12	100/150	<b>1</b>	<b>4</b>	<b>0</b>	<b>11</b>	<b>6</b>	<b>F 9986</b>	12	100/150	<b>1</b>	<b>9</b>	<b>6</b>
<b>F9983</b>	14	150/200	<b>1</b>	<b>11</b>	<b>6</b>	<b>15</b>	<b>0</b>	<b>F 9987</b>	14	150/200	<b>1</b>	<b>16</b>	<b>0</b>

Length 36 inches overall.

**Prices do not include lampholders or lamps.**

# S.E.C.

## ENCLOSED PENDANT FITTINGS

"UNALUX" glassware.



**F 7271/5**

**SHIREWSBURY.**

Antique Brass Metalwork.

"Unalux" Plain Glassware.



**F 7281/5**

**SHIREWSBURY.**

Antique Brass Metalwork.

"Unalux" Decorated Glassware.

Cat. No.	Dia.	Osram lamps recommended	Price each			Spare Glasses, each	
	ins.	watts.	£	s.	d.	s.	d.
<b>F7271</b>	12	100	<b>2</b>	<b>2</b>	<b>6</b>	<b>17</b>	<b>0</b>
<b>F7273</b>	14	150 or 200	<b>2</b>	<b>10</b>	<b>0</b>	<b>24</b>	<b>6</b>
<b>F7275</b>	16	200 or 300	<b>3</b>	<b>0</b>	<b>0</b>	<b>30</b>	<b>0</b>

Cat. No.	Dia.	Osram lamps recommended	Price each			Spare Glasses, each	
	ins.	watts	£	s.	d.	s.	d.
<b>F7281</b>	12	100	<b>2</b>	<b>15</b>	<b>0</b>	<b>29</b>	<b>6</b>
<b>F7283</b>	14	150 or 200	<b>3</b>	<b>3</b>	<b>0</b>	<b>37</b>	<b>6</b>
<b>F7285</b>	16	200 or 300	<b>3</b>	<b>10</b>	<b>0</b>	<b>40</b>	<b>0</b>

Length 42 inches overall.

**Prices do not include lampholders or lamps.**

# ENCLOSED PENDANT FITTINGS

"UNALUX" glassware.



**F 7301/5**

**REGENT.**

Antique Brass Metalwork.  
"Unalux" Plain Glassware.



**F 7311/15**

**REGENT.**

Antique Brass Metalwork.  
"Unalux" Decorated Glassware.

Cat. No.	Dia. ins.	Osram lamps recommended	Price each		Spare Glasses, each
		watts	£	s. d.	s. d.
<b>F7301</b>	12	100	<b>2 2 6</b>		<b>17 0</b>
<b>F7303</b>	14	150 or 200	<b>2 10 0</b>		<b>24 6</b>
<b>F7305</b>	16	200 or 300	<b>3 0 0</b>		<b>30 0</b>

Cat. No.	Dia. ins.	Osram lamps recommended	Price each		Spare Glasses, each
		watts	£	s. d.	s. d.
<b>F7311</b>	12	100	<b>2 15 0</b>		<b>29 6</b>
<b>F7313</b>	14	150 or 200	<b>3 3 0</b>		<b>37 6</b>
<b>F7315</b>	16	200 or 300	<b>3 10 0</b>		<b>40 0</b>

Length 42 inches overall.

**Prices do not include lampholders or lamps.**

# S.E.C.

## ENCLOSED PENDANT FITTINGS

"SUPERLUX" glassware



**F 7469/73**

**GLENARCH.**

Real Bronze Colour.

"Superlux" Glassware.

Cat. No.	Dia.	OSRAM lamps recommended	Price each			Spare Glasses, each
	ins.	watts	£	s.	d.	s. d.
<b>F7469</b>	12	100	<b>3</b>	<b>12</b>	<b>6</b>	<b>17 6</b>
<b>F7471</b>	14	150 or 200	<b>4</b>	<b>5</b>	<b>0</b>	<b>30 0</b>
<b>F7473</b>	16	200 or 300	<b>5</b>	<b>5</b>	<b>0</b>	<b>38 0</b>

**F 7474/7**

With Canopy and Suspension as **F 7301** in

Oxidised Copper or Antique Brass.

Catalogue No.	Dia.	OSRAM lamps recommended	Price each		
	ins.	watts	£	s.	d.
<b>F 7474</b>	12	100	<b>2</b>	<b>2</b>	<b>6</b>
<b>F 7475</b>	14	150 or 200	<b>2</b>	<b>15</b>	<b>0</b>
<b>F 7477</b>	16	200 or 300	<b>3</b>	<b>7</b>	<b>6</b>



**F 9977/8/9**

Real Bronze Colour.

"Superlux" Decorated Glassware.

Cat. No.	Dia.	OSRAM lamps recommended	Price each			Spare Glasses, each
	ins.	watts	£	s.	d.	s. d.
<b>F9977</b>	12	100	<b>2</b>	<b>8</b>	<b>0</b>	<b>31 6</b>
<b>F9978</b>	14	150 or 200	<b>3</b>	<b>1</b>	<b>6</b>	<b>45 0</b>
<b>F9979</b>	16	200 or 300	<b>3</b>	<b>17</b>	<b>6</b>	<b>57 6</b>

Length 42 inches overall.

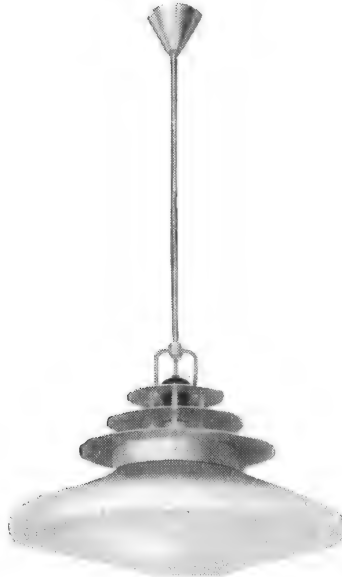
**Prices do not include lamp-holders or lamps.**



# ENCLOSED PENDANT FITTINGS

(Patent No. 416332).

(Regd. Design Nos. 788489/90).



**F 9956**

This unit has been specially designed to provide the maximum amount of light on the working plane and at the same time to permit a proportion of light to pass upwards and illuminate the ceiling.

In order that the maximum distribution should be obtained certain special features have been introduced. The enclosing globe is partly silvered and partly acid treated inside and fitted with a half opal and frosted cylinder. This combination allows full advantage to be taken of the very high transmission properties of the frosted glass without the excessive surface brightness usually experienced.

An additional feature of this unit is the patent canopy which has been designed to reduce the heat on the wires entering the lampholder. Length 36in. overall. Ceiling plates are arranged for fixing to small B.S. Boxes.

**F 9956**

## Rod Suspension.

Catalogue No.	Diam.	Osram Lamp recommended	Real Bronze Col. each.			Chromium Plated each		
<b>F 9956</b>	ins. 17 $\frac{1}{4}$	watts 200	£ 5	s. 5	d. 0	£ 5	s. 10	d. 0

**F 9955**

## Chain Suspension.

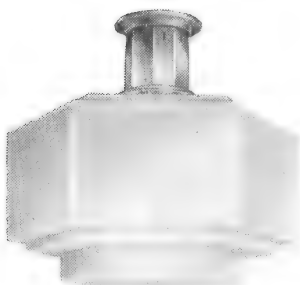
Catalogue No.	Diam.	Osram Lamp recommended	Real Bronze Colour each		
<b>F 9955</b>	ins. 17 $\frac{1}{4}$	watts. 200	£ 4	s. 19	d. 0

**Prices include lampholders but not lamps.**

# S.E.C.

## ENCLOSED CEILING FITTINGS

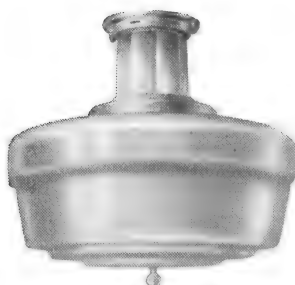
Low absorption white opal glassware.



F 9974/5/6

**DOWNMEDE.**

Registered Design No. 774520.

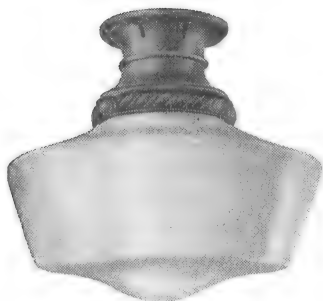


F 9996/7/8/9

**ROSLINA.**

Registered Design No. 774521.

Catalogue No.	Diameter	Osram Lamps recommended	Real Bronze Colour, each			Chromium Plated, each		
			£	s.	d.	£	s.	d.
F 9974	12	100	1	7	0	1	11	0
F 9975	14	150	1	15	0	1	19	0
F 9976	16	200	2	6	6	2	12	0
F 9996	10	60	1	1	0	1	4	0
F 9997	12	100	1	4	0	1	8	6
F 9998	14	150	1	11	6	1	16	0
F 9999	16	200	2	2	0	2	8	0



F 8471/7

**WALMER.**

**"BRITALUX" low absorption glassware.**

Catalogue No.	Dia. of Glass	Osram lamps recommended	Antique Brass, each		
			£	s.	d.
F 8471	10	60		13	6
F 8473	12	100		17	6
F 8475	14	150	1	1	6
F 8477	16	200	1	8	6

**Prices do not include lampholders or lamps.**

## **ELECTRIC LIGHT FITTINGS**

### **PENDANTS, BRACKETS, STANDARDS, ETC.**

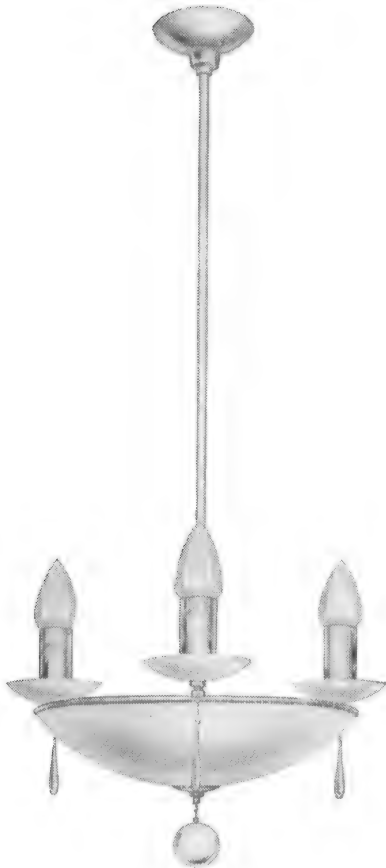
At all the Home and Overseas establishments of the G.E.C. a wide variety of Electric Light Fittings and Fixtures is exhibited in extensive showrooms.

These fittings and fixtures embrace pendants, brackets, ceiling fittings, electroliers, standards, etc., suitable for every system of lighting, and experienced attendants are available to render service and offer advice to buyers.

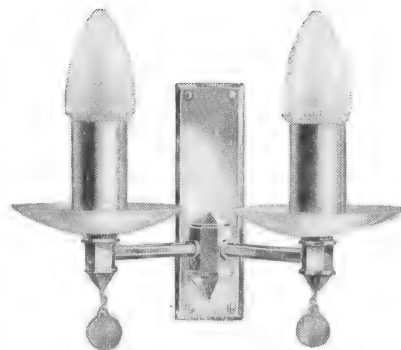
In the design of these fittings and fixtures science and art go hand in hand, with the result that attractiveness of shape and decorative effect is intimately allied with correct scientific illuminating properties.

It is possible for fittings to be selected from standard production to satisfy every individual taste and preference, and also to conform to any architectural or furnishing scheme, or to meet any normal illumination purpose.

Representative examples of existing designs figure on this and the following page.



**F 10215**

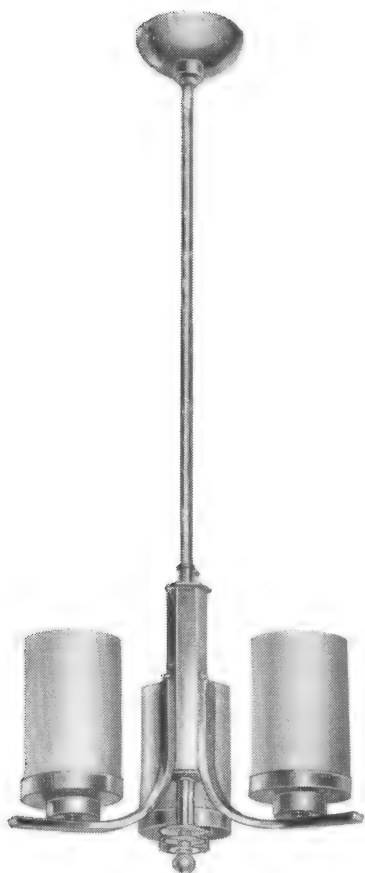


**F 10313**

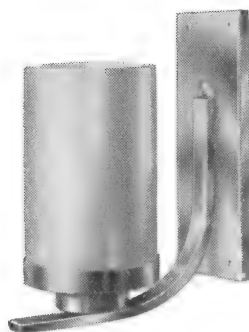
Cat. F (1) Electric Light Fittings will be forwarded on application.

**G.E.C.**

**ELECTRIC LIGHT FITTINGS  
PENDANTS, BRACKETS, STANDARDS, ETC.**



**F 10104**



**F 10109**

Cat. F (1) Electric Light Fittings will  
be forwarded on application.

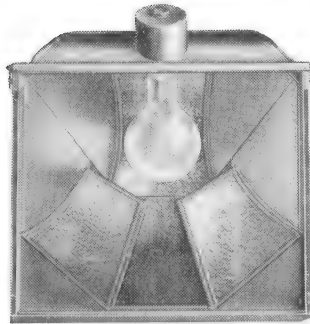
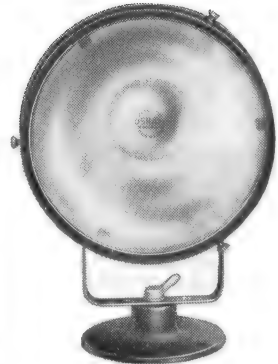
Where fittings and fixtures of special or distinctive design are required, the G.E.C. places the services of its Fixtures Design Office at the disposal of clients. In this department a staff of specialists is retained, having an intimate knowledge of design as well as manufacturing experience of fittings for domestic use, for public buildings, etc. Designs will be willingly prepared to meet special requirements embodying, where necessary, customers' own ideas.

## FLOODLIGHT UNITS

Marked success has been achieved by the use of G.E.C. Floodlight units for the illumination of all classes of buildings. By suitable arrangement of the various types of units any store, office, theatre, cinema, advertisement hoarding, gardens and open space, etc., lends itself to the benefits to be derived from the G.E.C. system of exterior illumination by floodlighting.

A wide range of these units is illustrated and described in the G.E.C. Floodlighting Catalogue, a copy of which will be forwarded on request. A few of the units are shown below and on the following page.

To aid clients in planning installations to the best possible advantage, G.E.C. Illuminating Engineers are available to advise and assist in every way without the slightest obligation being incurred. As the final result in any floodlighting scheme is far more dependent on the type and method of use of the floodlights, than on the total amount of electricity employed, those interested are strongly advised to avail themselves of this service.

**F 5704****F 5726****F 5728**

**F 5704** G.E.C. Blackfriars Floodlight for the illumination of Building Faces where limited offset is available. For use with OSRAM 500-watt Class B1 Projector lamp.

**Price £6 15 0** each.

Also available in 250 and 1,000-watt ratings.

**F 5726** G.E.C. Floodlight for the illumination of Building Faces, Gardens, etc., from medium offset. For use with OSRAM 500 or 1,000-watt General Service lamp.

**Price £9 0 0** each.

**F 5728** G.E.C. Floodlight for a concentrated narrow angle beam for the illumination of Flagstaffs, Clock Faces, small architectural features, etc. For use with OSRAM 200-watt General Service or 250-watt Class B1 Projector lamp

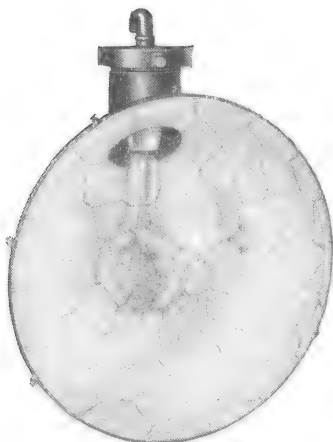
**Price £5 0 0** each.

Also available in 100-watt rating.

**Prices include lampholders but not lamps.**

# G.E.C.

## FLOODLIGHT UNITS



**F 5735**

**F 5735** G.E.C. General Utility vitreous enamel floodlight, giving a diffused beam for the illumination of Gardens, Spaces, etc. For use with OSRAM 500, 1,000 or 1,500-watt General Service lamp.

**F 5748**

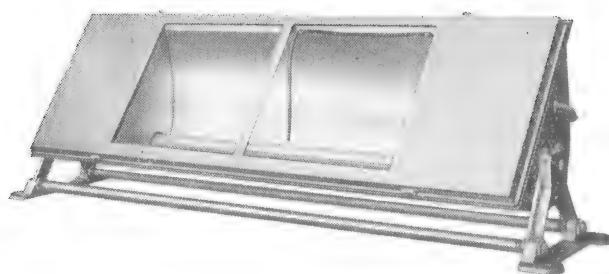


**F 5748** G.E.C. Floodlight for the illumination of Buildings, Trees, etc., from a distance. Medium beam distribution for use with OSRAM 1,000-watt General Service lamp.

**Price £11 15 0 each.**

Similar models available for use with 500-watt lamps and for narrow beam projection.

**Prices include lampholders, but not lamps.**



**F 17501**

**F 17501** G.E.C. floodlighting equipment for use with OSIRA red, green, or blue lamps.

**Price** (not including choke or lamps)

**£19 10 0 each.**

**F 17503** G.E.C. Choke ..

**Price £2 12 0 each.**

*For Osira floodlighting lamps see page 552.*

**Quotations for other standard floodlights, or for special designs, can be supplied on request.**

# **ELECTRIC LIGHT FITTINGS ACCESSORIES**

## **BRASS CORD GRIPS**

Cat. No.	Description and Finish.	Thread	Price per doz.	
			s.	d.
<b>F 3501</b>	Brass	Male $\frac{3}{8}$ " brass	<b>3</b>	<b>0</b>
		Male $\frac{1}{2}$ " brass	<b>4</b>	<b>6</b>
		Male $\frac{5}{8}$ " brass	<b>5</b>	<b>6</b>
		Male $\frac{3}{4}$ " gas	<b>13</b>	<b>6</b>
		Male $\frac{3}{4}$ " electric	<b>13</b>	<b>6</b>
<b>F 3503</b>	Brass	Female $\frac{3}{8}$ " brass	<b>5</b>	<b>6</b>
		Female $\frac{1}{2}$ " brass	<b>5</b>	<b>9</b>
		Female $\frac{5}{8}$ " brass	<b>7</b>	<b>9</b>



**F 3501**



**F 3503**

## **BRASS LACQUERED SCREWS**

Cat. No.	Description and Finish.	Size	Price per doz.
<b>F 3509</b>	Brass lacquered	No. 6 $\times \frac{3}{4}$ " No. 8 $\times 1$ "	<b>5d.</b> <b>8d.</b>

## **BRASS POLISHED RINGS**

Cat. No.	Description and Finish.	Thread	Price per doz.	
			s.	d.
<b>F 3511</b>	Polished brass	Female $\frac{3}{8}$ " brass	<b>1</b>	<b>6</b>
		Female $\frac{1}{2}$ " brass	<b>1</b>	<b>9</b>
		Female $\frac{5}{8}$ " brass	<b>2</b>	<b>6</b>
		Female $\frac{3}{4}$ " brass	<b>4</b>	<b>3</b>



**F 3509**



**F 3511**

## **BRASS SUSPENDING HOOKS**

Cat. No.	Description.	Hole	Price per doz.	
			s.	d.
<b>F 3513</b>	To fix under cord grip caps of lampholders	$\frac{5}{8}$ "	<b>8</b>	<b>6</b>
<b>F 3515</b>	With split insulator ; easily attached to wire	—	<b>16</b>	<b>6</b>

## **BRASS SCREW CLIPS**

Cat. No.	Description.	Tube Diameter	Price per doz.	
			s.	d.
<b>F 3517</b>	For clipping to brass tubes.	$\left\{ \begin{array}{l} \frac{3}{8} \text{ in. } \frac{1}{2} \text{ in. } \frac{5}{8} \text{ in.} \\ \frac{3}{4} \text{ in. } \frac{7}{8} \text{ in. } 1 \text{ in.} \end{array} \right\}$	<b>11</b>	<b>6</b>
<b>F 3519</b>	Insulated clip for brass tubes	$\left\{ \begin{array}{l} \frac{3}{8} \text{ in. } \frac{1}{2} \text{ in. } \frac{5}{8} \text{ in.} \\ \frac{3}{4} \text{ in. } 1 \text{ in. } 1 \frac{1}{8} \text{ in.} \end{array} \right\}$	<b>11</b>	<b>6</b>



**F 3513**



**F 3515**



**F 3519**



**F 3517**

# S.E.C.

## ELECTRIC LIGHT FITTINGS ACCESSORIES

### INSULATING HOOKS.



F 3521 F 3527

Cat. No.	Description and Finish.	Length.	Price per doz.		Price per gross.	
			s.	d.	s.	d.
F 3521	Polished brass. China insulator. For insulating light pendants from ceiling	—	12	6	—	—
F 3527	Slotted insulator	1 1/2 in. 2 1/2 in.	1	3	12	6
			1	5	14	6

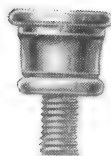
### BRASS ROSETTES.



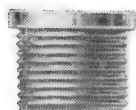
F 3529

Cat. No.	Description.	Price per doz.		Price per gross.	
		s.	d.	s.	d.
F 3529	For use with screw eyes	1	0	10	6

### BRASS REDUCING NOZZLES.



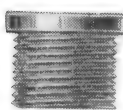
F 3531



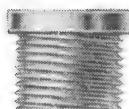
F 3536

Cat. No.	Description and Finish.	Thread		Price per doz.	
		Inside.	Outside.	s.	d.
F 3531	Polished brass. Brass threads	1/8 in.	1/4 in.	2	6
		1/4 in.	3/8 in.	2	6
		3/8 in.	1/2 in.	3	6
		1/2 in.	3/4 in.	3	3
		5/8 in.	7/8 in.	3	3
		3/4 in.	1 in.	4	0
		7/8 in.	1 1/8 in.	4	3
		1 in.	1 1/4 in.	5	0
		1 1/8 in.	1 3/4 in.	6	0
		1 1/4 in.	2 in.	6	0

### BRASS INCREASING NOZZLES.



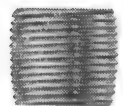
F 3539



F 3537

Cat. No.	Description and Finish.	Thread		Price per doz.	
		Inside.	Outside.	s.	d.
F 3535	Brass threads	1/8 in.	1/4 in.	1	9
		1/4 in.	3/8 in.	3	0
		3/8 in.	1/2 in.	2	0
		1/2 in.	3/4 in.	5	6
F 3537	Brass inside, Gas outside, threads	1/8 in.	1/4 in.	5	6
		3/8 in.	1/2 in.	5	6
F 3539	Gas threads	1/8 in.	1/4 in.	3	0
		1/4 in.	3/8 in.	4	3
		3/8 in.	1/2 in.	7	6
		1/2 in.	3/4 in.	11	3
		3/4 in.	1 in.	11	3
		1 in.	1 1/4 in.	11	3

### BRASS NIPPLES.



F 3541

Cat. No.	Description.	Thread	Price per doz.		Price per gross.	
			s.	d.	s.	d.
F 3541	Brass thread	Outside.				
		1/8 in.	9		8	6
		1/4 in.	10		9	6
		3/8 in.	1	0	11	3



# ELECTRIC LIGHT FITTINGS ACCESSORIES

## BRASS COUPLINGS

Cat. No.	Description.	Thread.	Price per dozen.	
F 3543	Brass thread	Inside.	s.	d.
		$\frac{3}{8}$ in.	4	0
		$\frac{1}{2}$ in.	4	3
		$\frac{3}{4}$ in.	5	3
		1 in.	6	6



F 3543

## BRASS ELBOWS

Cat. No.	Description.	Thread.	Price per dozen.	
F 3545	Equal brass threads (two-way)	$\frac{3}{8}$ in.	s.	d.
		$\frac{1}{2}$ in.	11	3
		$\frac{3}{4}$ in.	14	3
F 3547	Equal brass threads (three-way)	$\frac{3}{8}$ in.	15	9
		$\frac{1}{2}$ in.	11	3
		$\frac{3}{4}$ in.	14	3



F 3545/7

## BRASS NOZZLES

Cat. No.	Description and Finish.	Thread.		Price per dozen.	
F 3551	Polished brass	Gas Inside.	Brass Outside.	s.	d.
		$\frac{3}{8}$ in.	$\frac{1}{2}$ in.	5	3
		$\frac{1}{2}$ in.	$\frac{3}{8}$ in.	5	3
		$\frac{3}{4}$ in.	$\frac{1}{2}$ in.	6	0
		1 in.	$\frac{3}{4}$ in.	6	0
		$\frac{3}{8}$ in.	$\frac{1}{2}$ in.	8	3
		$\frac{1}{2}$ in.	$\frac{3}{4}$ in.	8	3
		1 in.	1 in.	12	6
		1 in.	$\frac{3}{4}$ in.	12	6
		Electric Inside.	Brass Outside.		
F 3553	Polished brass	$\frac{3}{8}$ in.	$\frac{1}{2}$ in.	5	3
		$\frac{1}{2}$ in.	$\frac{3}{8}$ in.	5	3
		$\frac{3}{4}$ in.	$\frac{1}{2}$ in.	6	0
		$\frac{3}{8}$ in.	$\frac{3}{4}$ in.	6	0
		1 in.	1 in.	8	3
		1 in.	$\frac{3}{4}$ in.	8	3
F 3555	Polished brass	Gas Inside.	Brass Inside.		
		$\frac{3}{8}$ in.	$\frac{3}{8}$ in.	5	3
		$\frac{1}{2}$ in.	$\frac{3}{8}$ in.	6	0
		$\frac{3}{4}$ in.	$\frac{1}{2}$ in.	9	0
		1 in.	$\frac{3}{4}$ in.	12	6
F 3557	Polished brass	Electric Inside.	Brass Inside.		
		$\frac{3}{8}$ in.	$\frac{3}{8}$ in.	5	3
		$\frac{1}{2}$ in.	$\frac{3}{8}$ in.	6	0
		1 in.	$\frac{3}{4}$ in.	8	3



F 3551/3



F 3555



F 3557

# S.E.C.

## ELECTRIC LIGHT FITTINGS ACCESSORIES

### INSULATING BUSH PIECES



F 3561



F 3563

Cat. No.	Description	Size	Price		Price	
			White.		Black.	
			per doz. s. d.	per gross s. d.	per doz. s. d.	per gross s. d.
F 3561	Black or White for brass thread	$\frac{3}{8}$ in.	10	9 6	7d.	6 9
		$\frac{1}{2}$ in.	1 0	11 6	7d.	6 9
		$\frac{3}{4}$ in.	1 6	17 0	8d.	7 6

### EBONITE DIMINISHERS



F 3571

Cat. No.	Description.	Thread.		Price per doz.	
		Inside.	Outside.	s. d.	
F 3563	Brass threads	$\frac{3}{8}$ in.	$\frac{1}{2}$ in.	4	6
		$\frac{1}{2}$ in.	$\frac{3}{4}$ in.	5	9

### IRON NIPPLES AND SOCKETS



F 3573



F 3575

Cat. No.	Description.		Thread.		Price per dozen.	
			Outside Gas.		s. d.	
F 3571	Iron	{	$\frac{3}{8}$ in.		3	0
			$\frac{1}{2}$ in.		4	9
			$\frac{3}{4}$ in.		5	9
			1 in.		7	6
			Electric.			
F 3573	Iron	{	$\frac{3}{8}$ in.		4	0
			Inside Gas.			
			$\frac{3}{8}$ in.		4	0
			$\frac{1}{2}$ in.		5	3
			$\frac{3}{4}$ in.		7	6
F 3575	Iron	{	1 in.		11	3
			Inside Gas.			
			$\frac{1}{2}$ in. $\times$ $\frac{3}{8}$ in.		9	6
			$\frac{3}{4}$ in. $\times$ $\frac{1}{2}$ in.		11	6
			$\frac{1}{2}$ in. $\times$ $\frac{3}{4}$ in.		11	6
			1 in. $\times$ $\frac{1}{2}$ in.		14	6



F 3577/9

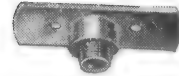
Cat. No.	Description.		Thread.		Price per dozen.	
			Inside. Electric.	Outside. Gas.	s. d.	
F 3577	Iron	{	$\frac{3}{8}$ in.	$\frac{3}{8}$ in.	9	6
			$\frac{1}{2}$ in.	$\frac{1}{2}$ in.	9	6
			$\frac{3}{4}$ in.	$\frac{3}{4}$ in.	11	6
			1 in.	1 in.		
F 3579	Iron	{	Inside. Gas.	Outside. Electric.		
			$\frac{1}{2}$ in.	$\frac{3}{8}$ in.	9	6
			$\frac{3}{4}$ in.	$\frac{1}{2}$ in.	11	6

# **ELECTRIC LIGHT FITTINGS ACCESSORIES**

## **CEILING PLATES**

Cat. No.	Description and Finish.	Base.	Thread.	Price per doz.	
				s.	d.
F 3581	Polished brass	2" x 7/8"	Male, brass do. 3/8"	6	0
F 3583	do.	2" x 7/8"	Female, brass do. 3/8"	5	3
F 3585	do.	1 1/2" x 1/2"	Male, brass 1/2"	7	0
F 3587	do.	2"	Male, brass do. 3/8"	5	0
F 3589	do.	2 1/4"	Male, brass do. 3/8"	10	6
			do. 1/2"	11	0
			do. 5/8"	12	0
F 3591	do.	2"	Female, brass do. 3/8"	9	0
			do. 1/2"	11	0
			do. 5/8"	12	0
F 3607	do.	3 1/4"	Female, brass 1/2"	24	0
F 3631	{ Polished brass for brass tube }	4"	{ Female, brass do. 1/2" }	69	0
F 3633	{ Polished brass for brass tube }	3 1/4"	Female, brass 1/2"	28	6
* F 3634	{ Polished or antique brass }	3 1/4"	Female, brass 5/8"	30	0
	{ Real bronze colour }	3 1/4"	do. 1/2"	33	0
	{ Oxidised silver }	3 1/4"	do. 1/2"	36	0
	{ Chromium plated }	3 1/4"	do. 5/8"	39	0
	{ for brass tube }	3 1/4"	do. 1/2"		

\* For fixing to B.S. Conduit Box—two fixing holes at 2" centres.



**F 3581**



**F 3583**



**F 3585**



**F 3587**



**F 3589**



**F 3591**



**F 3633**



**F 3634**



**F 3631**



**F 3607**

## ELECTRIC LIGHT FITTINGS ACCESSORIES

### CEILING PLATES

With and Without Cord Grips



F 3595



F 3597



F 3601



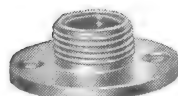
F 3603



F 3609



F 3617



F 3593



F 3627



F 3621

Cat. No.	Description and Finish.	Base.	Thread.	Price per dozen	
				with cord grip.	without cord grip.
				s. d.	s. d.
F 3595	Pol. or ant. brass	2½"*	Female, brass ½"	11 9	10 6
	Real bronze colour			13 0	11 6
	Ox. silver			14 0	12 6
F 3597	Pol. brass ..	3"*	Female, brass ½"	28 0	22 6
	Chrom. plated			36 3	29 6
	Pol. brass ..			12 6	—
F 3601	Ox. copper ..	3½"	—	13 9	—
	Ox. silver ..			15 0	—
	Pol. brass ..			11 6	6 0
F 3603	Ox. copper ..	2½"	Female, brass ½"	13 0	7 0
	Ox. silver ..			15 0	8 6
	Ant. brass ..			18 0	13 6
F 3609	Ox. copper ..	3"	Female, brass ½"	20 0	15 0
	Ox. silver ..			22 0	16 6
	Pol. brass ..			20 0	14 6
F 3617	Ox. copper ..	3½"	Female, brass ½"	22 6	16 6
	Ox. silver ..			26 6	20 0
	Pol. brass ..			19 9	14 3
F 3621	Ox. copper ..	3½"	Female, brass ½"	22 0	16 0
	Ox. silver ..			25 0	18 6
	Pol. or ant. brass (cast)			20 0	18 9
F 3627	Ox. copper or real bronze colour	3"*	Female, brass ½"	22 0	20 9
	Ox. silver ..			24 0	22 9

\* With two holes, 2" centres, for fixing to British Standard conduit boxes.

### PLATE FOR STANDARDS

Cat. No.	Description and Finish.	Base.	Thread.	Price	
				Doz.	Gross.
				s. d.	s. d.
F 3593	Small plate for fixing to wood standards. Steel bronze finish	1"	Male, brass ½"	3 0	30 0

# **ELECTRIC LIGHT FITTINGS ACCESSORIES**

## **CEILING PLATES—Hook Type**

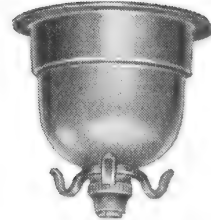
Cat. No.	Description and Finish.	Base.	Price per doz.	
			s.	d.
F 3629	{ Plate with detachable cover. Real bronze colour (see note at foot) }	—	72	0
F 3635	{ Plate to cover china ceiling rose. Cord grip and 3 hooks. Pol. brass. }	3½"	44	0
F 3637	{ Ditto, with central hook without cord grip. }	3½"	47	6
F 3639*	{ Plate with hook, pol. or ant. brass }	3"	25	0
	{ do. oxidised copper }		27	6
	{ do. oxidised silver }		30	0
F 3641	{ Plate with hook, polished brass }	3"	28	6
	{ do. oxidised copper }		31	3
	{ do. oxidised silver }		34	0
F 3643	{ Plate with hook, pol. or ant. cast brass }	2½"	20	0
	{ do. oxidised copper }		22	0
	{ do. oxidised silver }		24	0
	{ do. Iron }		19	0
F 3645	{ Plate with hook, pol. or ant. cast brass }	3½"	32	6
	{ do. oxidised copper }		35	9
	{ do. oxidised silver }		39	0
	{ do. Iron }		24	0
F 3649	{ Plate with 3 hooks, gilt colour oxidised silver }	3"	21	6
F 3655*	{ Plate with hook, pol. or ant. brass }	2½"	15	0
	{ do. real bronze colour }		16	6
	{ do. oxidised silver }		18	0
F 3657*	{ Plate with hook and bushed wire- way. Antique brass }	3½"	35	0
	{ do. Real bronze colour }		38	6
	{ do. Oxidised silver }		42	0

\* With two holes, 2" centres, for fixing to British Standard conduit boxes.

F 3629 The illustration shows in detail Ceiling Plate and Cover for fixing either to British Standard conduit box or wood block. Cover is detachable and completely covers conduit box or wood block.



**F 3629**



**F 3635/7**



**F 3639**



**F 3641**



**F 3657**



**F 3655**



**F 3649**



**F 3643/5**

## ELECTRIC LIGHT FITTINGS ACCESSORIES

### HOOKS FOR CEILING PLATES



F 3659



F 3661



F 3663



F 3665/7

Cat. No.	Description and Finish.	Thread	Price per doz.	
			s.	d.
F 3659	Malleable iron.	Male, gas $\frac{1}{2}$ "	10	6
		Male, electric $\frac{3}{4}$ "		
F 3661	Polished brass.	Female, brass $\frac{1}{2}$ "	7	0
		do. $\frac{3}{4}$ "	11	3
F 3663	Polished brass.	do. $\frac{1}{2}$ "	13	6
		do. $\frac{3}{4}$ "	6	6
F 3665	Malleable iron.	Male, brass $\frac{1}{2}$ "	9	0
		do. $\frac{3}{4}$ "	11	6
F 3665	Malleable iron.	Female, gas $\frac{1}{2}$ "	7	0
		do. $\frac{3}{4}$ "	9	6
F 3665	Malleable iron.	do. $\frac{1}{2}$ "	16	6
		do. $\frac{3}{4}$ "	27	0
F 3667	Polished brass.	Female, gas $\frac{1}{2}$ "	11	3
		do. $\frac{3}{4}$ "	13	6
F 3667	Polished brass.	do. $\frac{1}{2}$ "	17	6
		do. $\frac{3}{4}$ "	27	0

### HOOK RINGS FOR CEILING ROSES



F 3653

Cat. No.	Description and Finish.	Price per doz.	
		s.	d.
F 3653	Three hook rings for bakelite ceiling roses	10	6
	do. antique brass		
	do. real bronze colour		
	do. oxidised copper		
F 3653	do. oxidised silver	11	6
	do. oxidised silver	12	6

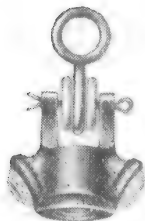
### GIMBALS



F 3651

Cat. No.	Description and Finish.	Thread.	Price per doz.	
			s.	d.
F 3651	Polished brass.	Brass $\frac{1}{2}$ " x $\frac{1}{2}$ "	36	0
		do. $\frac{3}{4}$ " x $\frac{1}{2}$ "	39	0
		do. $1$ " x $1$ "	63	0

### INSULATED SHACKLES



F 3681

Cat. No.	Description	Thread.	Price per doz.	
			s.	d.
F 3681	Iron, china insulators	Gas $\frac{1}{2}$ "	21	0
		Electric $\frac{1}{2}$ "		

# **ELECTRIC LIGHT FITTINGS ACCESSORIES**

## **LOOPS**

Cat. No.	Description and Finish.	Thread.	Price per doz.	
F 3669	Polished brass	Gas $\frac{3}{8}$ in.	s. d.	
		do. $\frac{1}{2}$ in.	8 3	
		do. $\frac{3}{4}$ in.	10 9	
F 3671	Polished brass	do. $\frac{1}{2}$ in.	14 0	
		Brass $\frac{1}{2}$ in.	7 0	
		do. $\frac{3}{8}$ in.	8 3	
		do. $\frac{1}{4}$ in.	10 9	
F 3673	Polished brass	do. 1 in.	14 0	
		Brass $\frac{1}{2}$ in.	11 3	
		do. $\frac{3}{8}$ in.	14 3	
F 3675	Malleable iron	do. $\frac{1}{4}$ in.	17 3	
		Gas $\frac{3}{8}$ in.	9 6	
		do. $\frac{1}{2}$ in.	11 9	
		do. $\frac{3}{4}$ in.	18 6	
		do. 1 in.	27 0	
		Electric $\frac{1}{2}$ in.	11 9	



## **ADJUSTABLE LOOPS**

Cat. No.	Description and Finish.	Thread.	Price per doz.	
F 3677	{ For carrying chain without the use of S hooks	Polished or antique brass	s. d.	
		Oxidised copper or real bronze colour	14 6	
		Oxidised silver	18 0	
		Brass $\frac{1}{2}$ in.	21 0	
		do. $\frac{3}{8}$ in.	16 0	
		do. $\frac{1}{4}$ in.	19 9	
		Gas $\frac{3}{8}$ in.	23 0	
		Brass $\frac{1}{2}$ in.	17 6	
		do. $\frac{3}{8}$ in.	21 6	
		Gas $\frac{1}{2}$ in.	25 0	

## **ANTI-VIBRATORS**

Cat. No.	Description and Finish	Thread.	Price per doz.	
F 3687	Polished brass	Brass.	s. d.	
		Inside $\frac{1}{8}$ Outside $\frac{1}{8}$	21 0	
F 3689	Brass	do. $\frac{1}{8}$ do. $\frac{1}{8}$	39 0	
		Gas do. $\frac{1}{8}$	5 0	

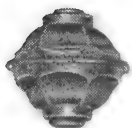


## ELECTRIC LIGHT FITTINGS ACCESSORIES

### CORD ORNAMENTS



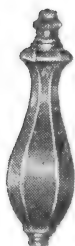
**F 3701**



**F 3703**

Cat. No.	Description and Finish.	Thread.	Price per doz.	
			s.	d.
F 3701	Polished brass ..	—	10	0
	Oxidised copper ..	—	11	0
	Oxidised silver ..	—	12	0
F 3703	Polished brass ..	—	12	0
	Oxidised copper ..	—	13	6
	Oxidised silver ..	—	17	3
F 3709	Polished brass ..	Brass, $\frac{1}{2}$ in.	57	0
	Oxidised copper ..		64	6
	Oxidised silver ..		75	0

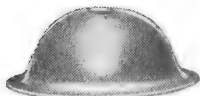
### LAMPHOLDER COVERS



**F 3709**

Cat. No.	Description and Finish.	Thread.	Price per doz.	
			s.	d.
F 3721	Polished brass ..	Brass, $\frac{1}{2}$ in.	7	6
	Oxidised copper ..		8	3
	Oxidised silver ..		9	0

### HUSKS



**F 3721**

Cat. No.	Description and Finish.	Hole.	Price per doz.	
			s.	d.
F 3723	Polished brass ..	$\frac{1}{2}$ in. or $1\frac{1}{2}$ in.	14	6
	Oxidised copper ..		16	0
	Oxidised silver ..		17	6
F 3725	Gilt colour brass ..	$\frac{1}{2}$ in. or $1\frac{1}{2}$ in.	12	0
	Oxidised copper ..		13	3
	Oxidised silver ..		14	6
F 3729	Polished brass ..	$\frac{1}{2}$ in. or $1\frac{1}{2}$ in.	24	0
	Oxidised copper ..		26	6
	Oxidised silver ..		29	0
F 3731	Polished brass for G.E.S. Lampholder For use with F 3501 $\frac{1}{2}$ in. gas thread.	—	Each 9 6	

### CORD SHORTENERS



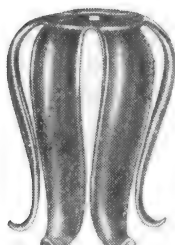
**F 3723**



**F 3725**



**F 3729**



**F 3731**



**F 3743**

Cat. No.	Description and Finish.	Price per doz.		Price per gross.	
		s.	d.	s.	d.
F 3743	{ Dull brass. Will take up } 2 ft. of cord.	3	6	36	0



# **ELECTRIC LIGHT FITTINGS ACCESSORIES**

## **GALLERIES AND SHADE CARRIERS**

Cat. No.	Description and Finish.	Diam.	Thread.	Hole.	Price per doz.	
		ins.	ins.	ins.	s.	d.
F 3751	{ To clamp to E.S. Lampholder—brass	2½	—	—	5	6
F 3753	Do. Polished brass	2½ 3½	— —	— —	8 11	9 3
F 3759	{ Brown bakelite do.	2½	—	1½	10	6
	{ do.	3½	—	1½	17	6
	{ Cream bakelite do.	2½	—	1½	16	6
	{ do.	3½	—	1½	23	6
F 3761	{ To screw on B.C. brass Lampholder	2½	—	1½	12	0
	{ Polished brass	2½	—	1½	13	3
	{ Oxidised copper	2½	—	1½	13	3
	{ Real bronze colour	2½	—	1½	13	3
	{ Oxidised silver	2½	—	1½	14	6
F 3765	{ Polished brass do.	2½ 3½	— —	1½ 1½	7 18	9 9
	{ Oxidised copper do.	2½ 3½	— —	1½ 1½	8 20	6 9
	{ Oxidised silver do.	2½ 3½	— —	1½ 1½	9 22	6 9
	{ Polished Brass do.	2½ 3½	Brass ½ do.	1½ 1½	12 15	6 9
	{ do.	4	do.	1½	24	6
	{ Chromium plated do.	2½ 3½ 4	do. do. do.	1½ 1½ 1½	15 21 31	0 0 6
F 3769	{ Antique brass do.	2½ 3½	Brass ½ do.	— —	42 55	0 0
	{ Oxidised copper do.	2½ 3½	do. do.	— —	46 60	3 6
	{ Oxidised silver do.	2½ 3½	do. do.	— —	50 66	6 0
F 3771	{ Polished brass	2½ 3½	do. do.	1½ 1½	12 15	6 6



**F 3751**



**F 3753**



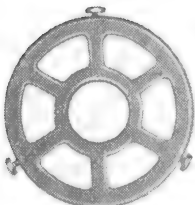
**F 3759**



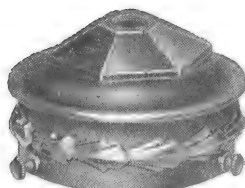
**F 3761**



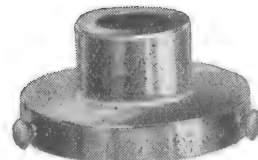
**F 3765**



**F 3771**



**F 3769**

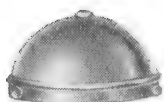


**F 3767**

# S.E.C.

## ELECTRIC LIGHT FITTINGS ACCESSORIES

### GALLERIES AND SHADE CARRIERS



**F 3773**



**F 3775**  
Registered No. 622033



**F 3781**



**F 3783**



**F 3785**



**F 3787**



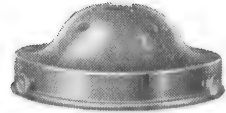
**F 3791**

Cat. No.	Description and Finish.	Diam.	Thread.	Hole.	Price per doz.	
					s.	d.
F 3773	Polished Copper	3½	Brass ½	1½	31	6
		4		1½	79	0
		6		—	138	0
		7		—	180	0
	Polished brass	8½	Brass ½	—	225	0
		3½		1½	28	6
		4		1½	72	0
		6		—	126	0
	Iron	3½	Electric ¾	—	28	6
		4		—	36	0
F 3775	Polished brass	6	—	—	57	0
		7		—	66	0
		8½		—	75	0
		2½		1½	12	0
	Oxidised copper	3½	—	1½	20	0
		2½		1½	13	3
	Oxidised silver	3½	—	1½	22	0
		2½		1½	14	6
	Antique brass	3½	Brass ½	1½	24	0
		2½		1½	26	6
F 3779	Real bronze colour	3½	Brass ½	1½	45	0
		2½		1½	29	0
	Oxidised silver	3½	Brass ½	1½	49	6
		2½		1½	31	6
	Gilt colour brass	3½	Brass ½	1½	54	0
		2½		1½	29	6
	Oxidised copper	3½	Brass ½	1½	36	0
		4		1½	54	0
	Oxidised silver	2½	Brass ½	1½	32	6
		3½		1½	39	6
F 3781	Oxidised silver	4	Brass ½	—	59	6
		2½		1½	35	6
	Polished brass	3½	Brass ½	1½	43	0
		2½		1½	65	0
	Oxidised copper	4	Brass ½	—	28	6
		3½		—	42	6
	Oxidised silver	2½	Brass ½	—	33	0
		3½		—	48	0
	Polished brass	2½	Brass ½	—	40	0
		3½		—	59	6
F 3783	Oxidised copper	2½	Brass ½	—	31	6
		3½		—	57	0
	Oxidised silver	2½	Brass ½	—	36	0
		3½		—	65	0
	Polished brass	2½	Brass ½	—	43	6
		3½		—	78	0
	Oxidised copper	2½	Brass ½	—	29	6
		3½		—	38	6
	Oxidised silver	2½	Brass ½	—	34	0
		3½		—	43	6
F 3785	Polished brass	2½	Brass ½	—	41	6
		3½		—	52	6
	Oxidised copper	2½	Brass ½	—	31	6
		3½		—	34	9
	Oxidised silver	2½	Brass ½	—	38	0
		3½		—	38	0
	Polished brass	2½	Brass ½	—	31	6
		3½		—	34	9
	Oxidised copper	2½	Brass ½	—	38	0
		3½		—	38	0

# **ELECTRIC LIGHT FITTINGS ACCESSORIES**

## **GALLERIES AND SHADE CARRIERS**

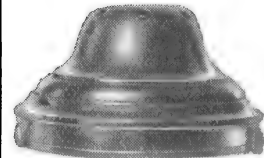
Cat. No.	Description and Finish.	Diam.	Thread.	Hole.	Price per doz.	
		ins.	in.	ins.	s.	d.
F 3793	Cast brass pol'd	2½	Brass ½	1½	22	6
	Oxidised copper	3½	Brass ½	1½	42	0
	Real bronze colour	2½	Brass ½	1½	24	9
	Oxidised silver	3½	Brass ½	1½	46	3
		2½	Brass ½	1½	24	9
F 3797	Polished brass	3½	Brass ½	1½	46	3
	Oxidised copper	3½	Brass ½	1½	27	0
	Oxidised silver	3½	Brass ½	1½	50	6
F 3799	Pol. or ant. brass	4	Brass ½	—	66	0
	Oxidised copper	4	Brass ½	—	75	6
	Oxidised silver	4	Brass ½	—	90	0
F 3807	Oxidised copper focussing canopy	2½	Gas ½	—	Each.	6 0
		3½	Gas ½	—		6 6
						7 0
F 3809	Polished brass focussing canopy for use with F 3501	3½	Gas ½	—		9 0
		4	Gas ½	—		14 0
F 3811	Polished brass, for shades with 1½ in. opening	—	—	—	Per doz.	6 0
F 3813	Polished brass, for shades with 1½ in. opening	—	—	1½		7 6
F 3815	As F 3813 but for larger lamps	—	—	1½		28 6
F 3817	For E.S. holder Tilting shade carrier for shades with 1½ in. opening	—	Brass ½	—		30 0
F 3821	Polished brass	—	—	1½		34 6
	Oxidised copper	—	—	1½		31 6
	Oxidised silver	—	—	1½		34 9
	As F 3821 but for larger lamps	—	—	1½		38 0
F 3823	Polished brass	—	—	1½		35 0
	Oxidised copper	—	—	1½		38 6
	Oxidised silver	—	—	1½		42 0
F 3825	For E.S. holder Polished brass	—	Brass ½	—		45 6



**F 3793**



**F 3797**



**F 3799**



**F 3807**



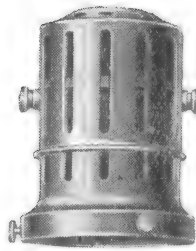
**F 3821/5**



**F 3813/17**



**F 3811**



**F 3809**

# S.E.C.

## ELECTRIC LIGHT FITTINGS ACCESSORIES



**F 3829**



**F 3831**



**F 3833**



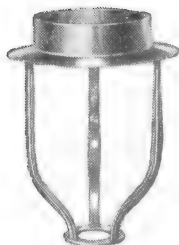
**F 3835**



**F 3837**



**F 3845**



**F 3839**



**F 3841**

### SHADE CARRIERS

Cat. No.	Description and Finish.	Diam.		Hole.		Price per doz.	
		ins.		ins.		s.	d.
F 3829	Polished brass ..	4		1½		5	6
F 3831	To clip to candle— Tinned brass ..	—		—		11	6
F 3833	To clip to candle— Brass. Top gallery 2 ins.	—		—		7	6
F 3835	Polished brass ..	4		1½		27	0
F 3837	{ For shades with 4 in. top opening—						
	Polished or antique brass ..	—		1½		18	0
	Oxidised copper ..	—		1½		21	0
	Oxidised silver ..	—		1½		25	6
	Nickel plated ..	—		1½		25	6
F 3839	{ For lamp shades with 4 in. top opening—						
	Polished or antique brass ..	—		1½		81	0
	Oxidised copper ..	—		1½		90	0
	Oxidised silver ..	—		1½		97	6
F 3841*	{ Polished brass, with 2 or 3 light ball body. To screw to ½ in. brass. 4 in. carrier. }	—		—		Each. 9 0	
F 3845	{ Polished brass, ½ in. brass thread or 1½ in. hole. }	10		—		5	6

\* When ordering, please state number of lights required.

# ELECTRIC LIGHT FITTINGS ACCESSORIES

## SHADE CARRIERS

Cat. No.	Description.	Thread.	Price per doz.
			s. d.
F 3905	Brass, with 1 in. long stem. Shade ring unscrews at bottom.	Brass, $\frac{5}{8}$ in.	16 6
F 3907	With 1 in. long stem. To screw on to $\frac{1}{2}$ in. iron barrel.	Brass, $\frac{5}{8}$ in.	16 6

## SHADE CARRIER AND CORD GRIP

Cat. No.	Description.	Thread.	Price per doz.
			s. d.
F 3903	For $1\frac{1}{2}$ in. shades ..	Brass, $\frac{5}{8}$ in.	9 6

## TILTERS

Cat. No.	Description and Finish.	Price each.
		s. d.
F 3849	Polished brass (without shade lamp or lampholder).	5 0

## PULL DOWN HANDLES

Cat. No.	Description and Finish.	Price each.
		s. d.
F 3853	Attachment for lampholder of 1-light pendant, to screw on in place of shade carrier ring. Polished brass.	3 9

## OIL LAMP ADAPTORS

Cat. No.	Description and Finish.	Thread.	Price per doz.
			s. d.
F 3861	For Duplex lamps— Polished brass .. Oxidised copper .. Oxidised silver .. Nickelled ..	Brass, $\frac{1}{2}$ in.	12 0 14 0 21 0 21 0
F 3865	For Duplex and other lamps— Polished brass .. Nickelled ..	Brass $\frac{1}{2}$ in.	20 0 24 0

## SHADE FIXERS

Cat. No.	Description and Finish.	Price each.
		s. d.
F 3869	For attaching and detaching shade holder rings where shades are too small to allow rings to be fixed by hand. Nickelled steel.	4 3



F 3905



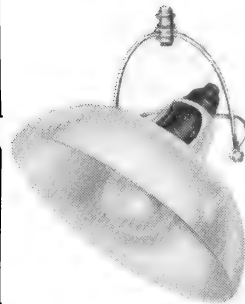
F 3907



F 3849



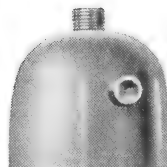
F 3853



F 3861



F 3869



F 3865



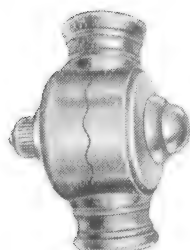
F 3861

# S.E.C.

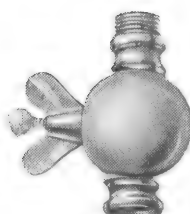
## ELECTRIC LIGHT FITTINGS ACCESSORIES



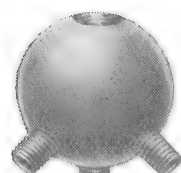
**F 3873**



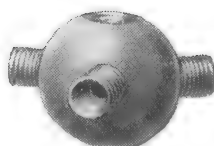
**F 3875**



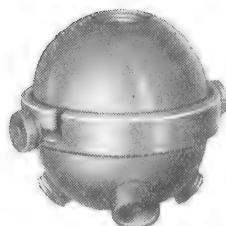
**F 3877**



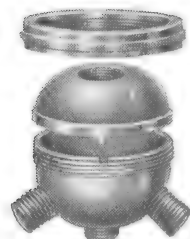
**F 3881**



**F 3883**



**F 3885**



**F 3887**

### KNUCKLE JOINTS

Cat. No.	Description and Finish.	Thread.	Price per doz.	
F 3873	Polished brass ..	Brass, $\frac{1}{2}$ in.	s.	d.
	Oxidised copper ..		39	0
	Oxidised silver ..		43	0
F 3875	Polished Brass. Will remain in position without aid of wing nut.	Brass, $\frac{1}{2}$ in.	42	0
F 3877	Pol. or ant. brass	Brass, $\frac{1}{2}$ in.	26	3
	Real bronze colour		29	0
	Oxidised silver ..		31	6
	Chromium plated		31	6

### BALL FITTINGS

Cat. No.	Description and Finish.	Top Thread.	Branch Thread.	Price per doz.	
F 3881	2-light, polished brass	$\frac{1}{8}$ in.	$\frac{1}{2}$ in.	s.	d.
	3-light, do.			21	6
	4-light, do.			24	0
	5-light, do.			25	6
	2-light, polished brass			27	0
F 3883	3-light, do.	$\frac{1}{8}$ in.	$\frac{1}{2}$ in.	21	6
	4-light, do.			24	0
	5-light, do.			25	6
	2-light, stamped split ball, polished brass			27	0
	3-light, do.			16	6
F 3885	4-light, do.	$\frac{1}{8}$ in.	$\frac{1}{2}$ in.	19	6
	5-light, do.			21	0
	2-light, heavy cast split ball, polished brass			22	6
	3-light, do.			37	6
F 3887	4-light, do.	$\frac{1}{8}$ in.	$\frac{1}{2}$ in.	39	0
	5-light, do.			42	0
	2-light, heavy cast split ball, polished brass			45	0
	3-light, do.			45	0

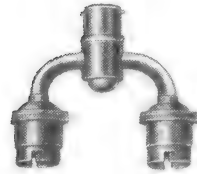
# **ELECTRIC LIGHT FITTINGS ACCESSORIES**

## **BALL FITTINGS**

Cat. No.	Description and Finish.	Top Thread.	Branch Thread.	Price per doz.	
		Brass	Brass	s.	d.
F 3893	Polished cast brass 2-light 3-light 4-light 5-light	$\frac{3}{8}$ in.	$\frac{1}{2}$ in.	27	6
				36	0
				45	0
				57	0
F 3895	Complete with BC adaptor and lamp-holders, polished brass. 2-light (series). 2-light (parallel)	—	—	Each.	
				6	9
F 3897	By use of this fitting lamps occupy a smaller space in dish fittings or opal shades than with other patterns. Polished brass. 2-light 3-light	$\frac{3}{8}$ in.	$\frac{1}{2}$ in.	4	3
				5	0
F 3899	Adjustable ball body with cord grip. Polished brass. 3-light.	—	—	3	3
F 3921	Canting type, $\frac{3}{8}$ in. tube. Polished brass. 2-light 3-light.	—	—	Per doz.	
				57	0
				69	0



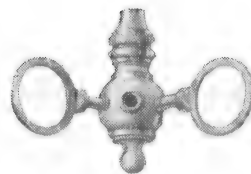
**F 3893**



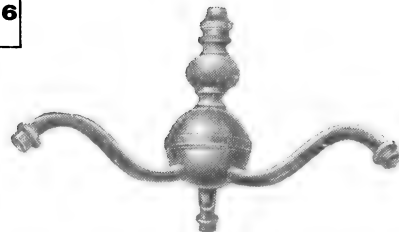
**F 3895**



**F 3897**



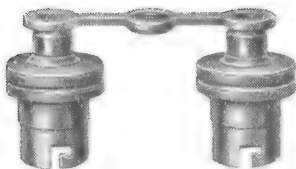
**F 3899**



**F 3921**

## **JUNCTION BARS**

Cat. No.	Description and Finish.	Centre Thread.	Branch Thread.	Price per doz.	
		Brass	Brass	s.	d.
F 3891	2-light, Brass 3-light do. 4-light do. 5-light do.	$\frac{3}{8}$ in.	$\frac{1}{2}$ in.	6	6
				9	6
				12	0
				14	6



**F 3891**

# S.E.C.

## ELECTRIC LIGHT FITTINGS ACCESSORIES



F 3973/5/7



F 3979

### BRASS HOOKS

Cat. No.	Description and Finish.	Price per doz.	
		s.	d.
F 3973	1in. Light pattern, polished brass.		6
	do. oxidised copper.		9
	do. oxidised silver.	1	0
F 3975	2in. Light pattern, polished brass.	2	0
	do. oxidised copper.	2	6
	do. oxidised silver.	3	9
F 3977	2½in. Heavy pattern, polished brass.	4	6
	do. oxidised copper.	5	3
	do. oxidised silver.	6	3
F 3979	1½in. Cast pattern, polished brass.	9	0
	2in. do. do.	12	6
	3in. do. do.	25	6

### WROUGHT IRON TUBES



F 3911/17

Catalogue No.	Description.	Length. inches.	Price per dozen.			
			½ in. Iron.		¾ in. Iron.	
			s.	d.	s.	d.
F 3911	For fitting up outside fittings, such as are used for shops, factories, etc.	4	6	0	7	0
F 3913		6	9	0	13	6
F 3915		9	13	6	21	0
F 3917		12	18	0	27	0

### BRASS TUBES Polished and Lacquered



F 3931/63

Cat. No.	Length.	Price per dozen.							
		½ in. Diam.		¾ in. Diam.		1 in. Diam.		1 ½ in. Diam.	
	ins.	s.	d.	s.	d.	s.	d.	Not Stocked.	
F 3931	1	3	6	3	9	4	0		
F 3933	1½	4	3	4	6	4	9		
F 3935	2	4	6	5	0	5	6		
F 3937	2½	5	6	5	9	6	3		
F 3939	3	6	0	6	9	7	3		
F 3941	3½	6	9	7	3	8	3		
F 3943	4	7	3	8	0	9	0		
F 3945	4½	8	0	8	9	10	0		
F 3947	5	8	6	9	9	10	9		
F 3949	6	9	9	11	0	12	3		
F 3951	7½	11	0	13	6	15	0		
F 3953	9	13	9	15	6	18	0		
F 3955	12	18	0	20	0	22	6	25	6
F 3957	15	21	6	25	0	28	0	31	6
F 3959	18	25	0	29	6	33	0	37	6
F 3961	24	32	6	37	6	42	6	49	6
F 3963	30	40	6	49	6	52	6	60	0



## ELECTRIC LIGHT FITTINGS ACCESSORIES

### CHAINS

#### CASH'S PLAIN—F 3985

Size of Link ins.	Polished Brass or Gilt Colour.		Antique Brass, Oxidised Copper or Real Bronze Colour.		Oxidised Silver finish.	
	per foot	per doz. yds.	per foot	per doz. yds.	per foot	per doz. yds.
$\frac{3}{4}$	11d.	30/-	1/1	36/-	1/3	42/-
1	1/-	33/-	1/2	39/-	1/4	45/-
$1\frac{1}{4}$	1/1	36/-	1/3	42/-	1/5	48/-
$1\frac{1}{2}$	1/8	54/-	1/10	60/-	2/1	69/-
$1\frac{3}{4}$	1/11	63/-	2/2	72/-	2/5	81/-
2	2/2	72/-	2/5	81/-	2/9	93/-



F 3985

Size of Link.	Finish.	per foot.	per doz. yds.
1 in.	Chromium plated .. .. .	1/6	50/-

#### CASH'S ORNAMENTAL—F 3987

Size of Link	Polished Brass or Gilt Colour.	Oxidised Copper or Real Bronze Colour.	Oxidised Silver finish.
	per foot	per foot	per foot
$\frac{3}{4}$	1/4	1/6	1/8
$1\frac{1}{4}$	1/11	2/2	2/4



F 3987

#### RECTANGULAR—F 3989

Size of Link ins.	Polished Brass or Gilt Colour.	Oxidised Copper or Real Bronze Colour	Oxidised Silver Finish.
	per foot.	per foot.	per foot.
$\frac{7}{8}$	9d.	10d.	1/-
$1\frac{1}{4}$	1/3	1/4	1/5
2	1/11	2/1	2/3



F 3989

#### OVAL LINK—F 3993

Size of Link ins.	Polished Brass or Gilt Colour.		Antique Brass Oxidised Copper or Real Bronze Colour.		Oxidised Silver Finish.		Wrought Iron.	
	per foot	per doz. yds.	per foot	per doz. yds.	per foot	per doz. yds.	per foot	per doz. yds.
$\frac{1}{2}$	3d.	7/6	$3\frac{1}{2}$ d.	8/3	4d.	10/-	—	—
$\frac{3}{4}$	4d.	10/6	$4\frac{1}{2}$ d.	11/6	5d.	14/-	3d.	8/3
1	5d.	13/6	6d.	15/-	7d.	18/-	4d.	11/3
$1\frac{1}{4}$	8d.	21/-	9d.	24/-	10d.	27/-	—	—
$1\frac{1}{2}$	1/4	42/-	1/6	48/-	1/8	54/-	—	—



F 3993

Size of Link.	Finish.	per foot.	per doz. yds.
1 in.	Chromium plated .. .. .	9d.	22/6

#### F 3991

Size of Link. ins.	Polished Brass or Gilt Colour.	Oxidised Copper or Real Bronze Colour	Oxidised Silver Finish.
	per foot.	per foot.	per foot.
1	8d.	10d.	1/-
$1\frac{1}{4}$	10d.	1/-	1/3
$1\frac{1}{2}$	1/-	1/3	1/6

#### F 3995

Size of Link. ins.	Polished Brass or Gilt Colour.	Oxidised Copper or Real Bronze Colour	Oxidised Silver Finish.
	per foot.	per foot.	per foot.
$1\frac{1}{4}$	7d.	8d.	10d.
$1\frac{1}{2}$	8d.	9d.	1/-
2	9d.	11d.	1/2



F 3995



F 3991

## ELECTRIC LIGHT FITTINGS ACCESSORIES

### CANDLE FITTINGS

#### F 4001

Telescopic candle fitting, complete with adjustable rubber plug and spring. Will fit inside any length opal tube up to 6 ins.

2/- each.

Price does not include lampholder, candle tube or lamp.

F 4003 Patent No. 196543.

#### ADVANTAGES.

(1) Rigidity when fixed, the rubber expanding plug being the best method of attachment to candle socket, while the spring shown draws the lamp firmly on to tube, and the tube in turn tightly on to the bevelled rubber. No shake is therefore possible, a fault which is present in other candle fittings.

(2) Illumination of tube giving realistic appearance of wax candle.

(3) Security of attachment. No amount of vibration can loosen the fitting when fixed.

(4) Always upright.

Stocked to fit 4, 4½ and 5 inch candle tubes.

3/9 each.

Price includes lampholder and opal tube, but not lamp.

F 4005 Patent No. 196543.

This fitting is identical with F 4003, with the exception that instead of the rubber expanding plug it is finished with S.B.C. cap for fitting into holder in sconce. By this means the lamp can be regulated in fitting before being placed in holder in sconce.

4/3 each.

For holders suitable for use in sconces see F 4009 and F 4013.

Price includes lampholder and opal tube, but not lamp.

F 4015 Patent No. 354037.

Candle fitting and sconce for use with B.C. lampholder and 40 watt Pearl Osram lamps.

Arranged with metal tube, 4 in. cream enamelled.

Rigid fixing. Lamp easily adjusted.

Polished brass, 4/- each. Oxidised silver finish, 5/- each.

#### F 4017

As above, but with wood drip candle tube. Polished brass, 7/6 each. Oxidised silver finish, 8/6 each.

Prices do not include lampholders or lamps.



F 4001



F 4005



F 4003



F 4015

### Self-Adjusting Lampholder



#### F 4009

To fit into candle socket, 1/3 each.

### Long Slotted Lampholder



#### F 4013

Long slotted S.B.C. lampholder, with adjustable rubber grip. 2/3 each.

### Candle Socket



#### F 4011

Candle socket polished brass. 1/6 each.

**S.E.C.**

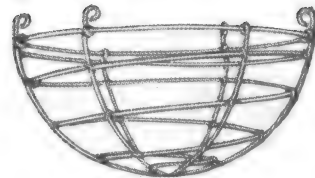
## ELECTRIC LIGHT FITTINGS ACCESSORIES

### WIRE GUARDS AND FRAMES

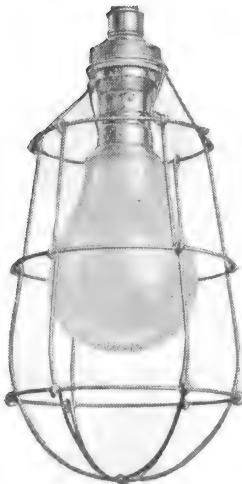
Cat. No.	Description and Finish.	Price per doz.	
		s.	d.
<b>F 4051</b>	Polished brass cap and galvanized wire guard. For Pearl Osram lamps up to 60 watt size. $1\frac{1}{8}$ in. hole.	<b>18</b>	<b>0</b>
<b>F 4059</b>	Strong galvanized wire guard. For springing on to enamelled iron shades.		
	8 in. .. .. .	<b>7</b>	<b>6</b>
	9 in. .. .. .	<b>8</b>	<b>3</b>
	10 in. .. .. .	<b>8</b>	<b>9</b>
	12 in. .. .. .	<b>13</b>	<b>6</b>
	15 in. .. .. .	<b>18</b>	<b>0</b>
	18 in. .. .. .	<b>42</b>	<b>0</b>
<b>F 4065</b>	Wire frame for silk shades. With gimbal.		
	9 in. .. .. .	<b>27</b>	<b>0</b>
	10 in. .. .. .	<b>30</b>	<b>0</b>
<b>F 4067</b>	Tinned wire guard. Simple to fix. No cap or gallery to obstruct light. For Pearl Osram lamps up to 60 watt size.	<b>9</b>	<b>0</b>
<b>F 4069</b>	Tinned wire as <b>F 4067</b> but for Pearl Osram lamps 100 watt size.	<b>15</b>	<b>0</b>



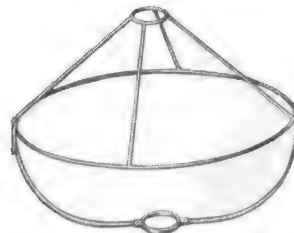
**F 4051**



**F 4059**



**F 4067/69**



**F 4065**

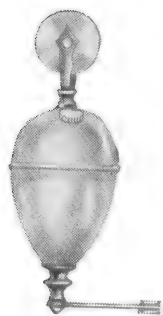
Holder and lamp not included with **F 4067** and **F 4069**.

## ELECTRIC LIGHT FITTINGS ACCESSORIES

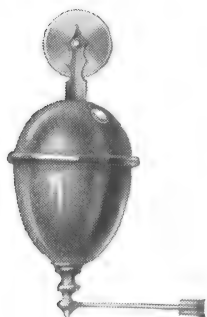
### COUNTERWEIGHT FITTINGS



F 4071/3



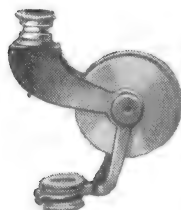
F 4075



F 4081



F 4097



F 4099



F 4083



F 4101

Cat. No.	Description and Finish.	Price per doz.	
		s.	d.
F 4071	Cream china. To hold up to 2½ lbs. of shot. Without pulley guide.	19	6
F 4073	As F 4071 but with pulley guide.	22	6
F 4075	Cream china. Cast mountings. To hold up to 2½ lbs. of shot. Without pulley guide.	28	6
F 4076	As F 4075 but with pulley guide.	31	0
F 4081	White china wheels. To hold up to 3 lbs. of shot. Polished brass.	37	6
F 4083	White china wheels. To hold up to 5 lbs. of shot. Polished brass.	39	0
F 4097	1½ in. china wheel. Mounted on polished brass back plate.	24	0
F 4099	1½ in. china wheel. Mounted on brass fitment. A useful device for carrying flexible pendant to any point in the room. Guide prevents flex from running off pulley.	21	0
F 4101	For extending pendants away from ceiling rose. Brass.	24	0

### DUST SHOT for above weights

In 28 lb. bags 12/- per bag. Smaller quantities 6d. per lb.

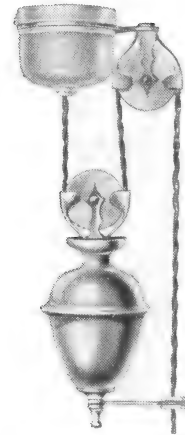
# **ELECTRIC LIGHT FITTINGS ACCESSORIES**

## **COUNTERWEIGHT FITTINGS**

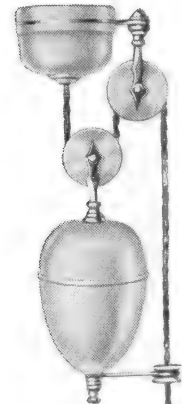
Cat. No.	Description and Finish.	Price per doz.	
		s.	d.
F 4077	White china wheel. To hold up to 2½ lbs. of shot. Polished brass. Without pulley guide.	25	6
F 4079	As F 4077 with pulley guide and pan.	28	6
F 4091	Ring and china wheel for 2½ in. H.V. Ceiling Rose. Brass, without guide.	8	3
F 4093	As F 4091 but with guide.	10	6
F 4095	Ring and china wheel, heavy cast pattern, for 2½ in. H.V. ceiling rose. Polished brass.	18	6
F 4096	As F 4095 but with pulley guide.	21	0
F 4103	1½ in. china wheel. Mounted on brass fitment. With wood screw.	14	6
F 4105	With china wheel. For fixing to brackets for suspending counterweight pendants. Polished brass. ½ in. thread.	24	0
F 4111	Polished brass counterweight with 2½ in. H.V. ceiling rose and pulley. Will hold up to 2½ lbs. of shot. Without pulley guides.	43	6
	With pulley guides.	48	0
F 4115	China counterweight with 2½ in. H.V. ceiling rose and pulley. Will hold up to 2½ lbs. of shot. Without pulley guides.	37	6
	With pulley guides.	42	0
F 4117	As F 4115 but all Cast Mountings. Without pulley guides.	57	0



**F 4077/9**



**F 4111**



**F 4115**

## **DUST SHOT for above weights**

In 28 lb. bags **12/-** per bag. Smaller quantities **6d.** per lb.



**F 4105**



**F 4103**



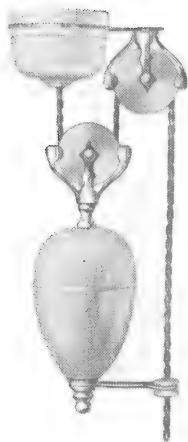
**F 4095**



**F 4091**

## ELECTRIC LIGHT FITTINGS ACCESSORIES

### COUNTERWEIGHT FITTINGS

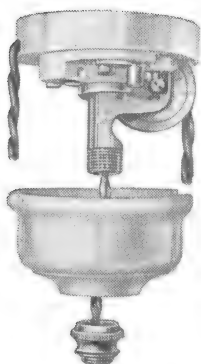


**F 4119**

Cat. No.	Description and Finish.	Price per doz.
		s. d.
<b>F 4119</b>	China counterweight with special lock nut and strong cord guide with $2\frac{1}{2}$ in. H.V. ceiling rose and pulley. Will hold up to $2\frac{1}{2}$ lbs. of shot. Without pulley guides. With pulley guides (as illustration).	<b>46 6</b> <b>50 6</b>
<b>F 4121</b>	H.V. ceiling rose with concealed pulley wheel. Can be used with any plain counterweight on this and previous pages. Arranged for looping and to take C.M.A. flexible cord.	<b>37 6</b>
<b>F 4123</b>	Cast iron counterweight with H.V. ceiling rose and guided pulley. Set complete. Counterweight only.	<b>60 3</b> <b>29 6</b>
<b>F 4127</b>	Polished brass. To hold up to 10 lbs. of shot.	<b>Each</b> <b>18 0</b>

### DUST SHOT for above weights

In 28 lb. bags **12/-** per bag. Smaller quantities **6d.** per lb.



**F 4121**



**F 4123**



**F 4127**

# **ELECTRIC LIGHT FITTINGS ACCESSORIES**

## **COUNTERWEIGHT FITTINGS**

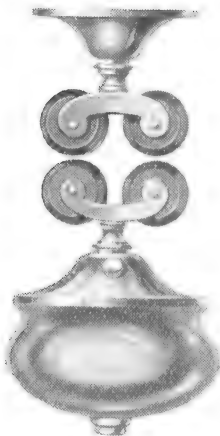
Cat. No.	Description and Finish.	Price per set.	
		s.	d.
<b>F 4131</b>	Polished or antique brass.	<b>15</b>	<b>0</b>
<b>F 4130</b>	As <b>F 4131</b> but in bakelite, oak or mahogany finish.	<b>15</b>	<b>0</b>
<b>F 4145</b>	Polished brass. To hold up to 6 lbs. of shot.	<b>8</b>	<b>3</b>
<b>F 4149</b>	{ Polished brass. To hold up to 11 lbs. of shot.	<b>15</b>	<b>0</b>
	{ Oxidised copper do.	<b>16</b>	<b>6</b>
	{ Oxidised silver. do.	<b>18</b>	<b>0</b>
<b>F 4157</b>	{ Cord absorber fitted with spring. Will take up to 6 feet of flex, and carry up to 2 lbs. in weight. Unwired.	<b>6</b>	<b>9</b>
	{ Polished or antique brass.		
	{ Oxidised copper.		



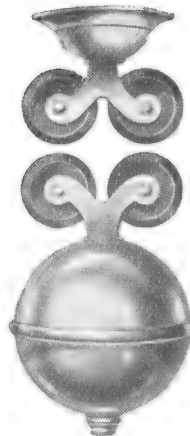
**F 4131**

### **DUST SHOT for above weights**

In 28 lb. bags **12/-** per bag. Smaller quantities **6d.** per lb.



**F 4149**



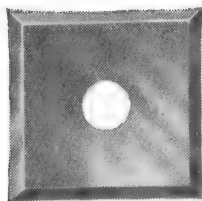
**F 4145**



**F 4157**

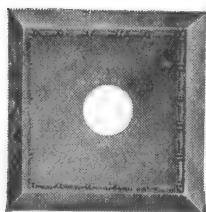
## ELECTRIC LIGHT FITTINGS ACCESSORIES

### SWITCH PLATES



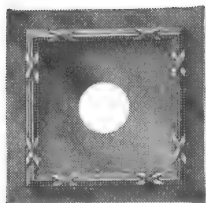
F 4161

Cat. No.	No. of Switch Holes.	Size of Plate.	Polished Brass.		Antique Brass, Real Bronze Colour or Oxidised Copper finish.		Oxidised Silver finish.		Chromium Plated.	
			each	doz.	each	doz.	each	doz.	each	doz.
F 4161	1	ins. 3 × 3	6d.	5/-	7d.	6/-	9d.	8/-	1/-	11/-
	2	5½ × 3	10d.	9/-	1/-	10/6	1/2	13/-	1/8	18/-
	3	7½ × 3	1/3	12/6	1/5	15/-	1/7	17/6	2/3	25/-
	4	5½ × 5½	1/9	18/-	2/-	20/-	2/3	24/-	3/-	33/-



F 4163

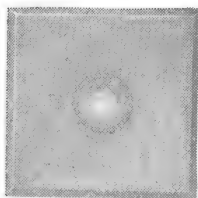
Cat. No.	No. of Switch holes.	Size of Plate.	Polished Brass.		Antique Brass or Oxidised Copper finish.		Oxidised Silver finish.	
			each	doz.	each	doz.	each	doz.
F 4163	1	ins. 3 × 3	6d.	5/-	7d.	6/-	9d.	8/-
	2	5½ × 3	10d.	9/-	1/-	10/6	1/2	13/-
	3	7½ × 3	1/3	12/6	1/5	15/-	1/7	17/6
	4	5½ × 5½	1/9	18/-	2/-	20/-	2/3	24/-



F 4165

Cat. No.	No. of Switch holes.	Size of Plate.	Polished Brass.		Antique Brass or Oxidised Copper finish.		Oxidised Silver finish.	
			each	doz.	each	doz.	each	doz.
F 4165	1	ins. 3 × 3	6d.	5/-	7d.	6/-	9d.	8/-
	2	5½ × 3	10d.	9/-	1/-	10/6	1/2	13/-
	3	7½ × 3	1/3	12/6	1/5	15/-	1/7	17/6
	4	5½ × 5½	1/9	18/-	2/-	20/-	2/3	24/-

**Note.—The above Switch Plates are stamped.**



F 4169

Cat. No.	No. of Switch Holes.	Size of Plate.	Roanold, White, Ivory, Champagne, Onyx, Pink and Green.	
			ins.	dozen.
F 4169	1	3½ × 3½	3½ × 3½	13/6
	2	5½ × 3	5½ × 3	24/-
	3	7½ × 3	7½ × 3	24/-
	4	5½ × 5½	5½ × 5½	36/-

Bakelite Cream Switches and Rings should be used with this plate.

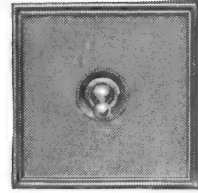
*Prices do not include Switches or Rings.*

*NOTE.—All the above Multiple Switch Plates are supplied with 2 in. centres.*

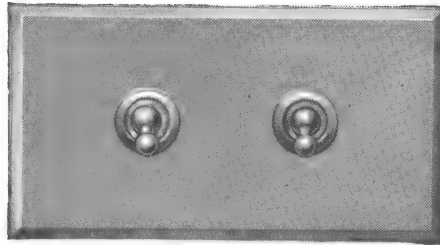


## ELECTRIC LIGHT FITTINGS ACCESSORIES SWITCH PLATES

Cat. No.	No. of Switch holes.	Size of Plate.	Polished Brass.	Real Bronze Colour or Oxidised Copper.	Oxidised Silver.
F 4171	1	ins. 3 × 3	each. 2/6	each. 2/9	each. 3/-
	2	5½ × 3	4/3	4/9	5/3
	3	7½ × 3	5/-	5/6	6/-
	4	9½ × 3	6/3	7/-	7/6
	4	5½ × 5½			



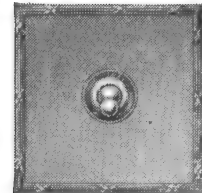
F 4171



F 4173

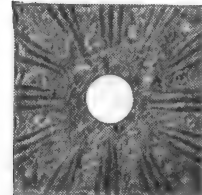
Cat. No.	No. of Switch Holes.	Size of Plate.	Polished Brass.		Real Bronze Colour or Oxidised Copper Finish.		Oxidised Silver Finish.		Clear Glass.	Chrom. Plated.
F 4173	1	ins. 3 × 3	each.	doz.	each.	doz.	each.	doz.	each.	each.
	2	5½ × 3	11d.	10/-	1/-	11/-	1/1	12/-	1/6	1/6
	3	7½ × 3	1/9	18/-	1/11	20/-	2/1	22/-	2/3	2/9
	4	9½ × 3	3/-	—	3/3	—	3/6	—	—	4/6
	4	5½ × 5½	4/3	—	4/9	—	5/3	—	—	6/-

Cat. No.	No. of Switch holes.	Size of Plate.	Gift Colour.
F 4175	1	ins. 3 × 3	each. 2/6
	2	5½ × 3	4/3
	3	7½ × 3	5/-
	4	9½ × 3	6/3
	4	5½ × 5½	



F 4175

Cat. No.	No. of Switch holes.	Size of Plate.	Oxidised Silver colour.
F 4177	1	ins. 3 × 3	each. 2/9
	2	5½ × 3	4/9
	3	7½ × 3	6/9



F 4177

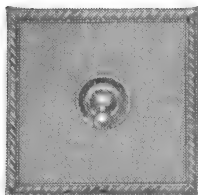
Prices do not include Switches or Rings.

NOTE.—All the above Multiple Switch Plates are supplied with 2 in. centres.

# S.E.C.

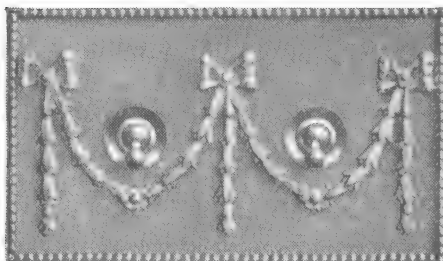
## ELECTRIC LIGHT FITTINGS ACCESSORIES

### SWITCH PLATES



**F 4179**  
2in. Centres

Cat. No.	No. of Switch holes.	Size of Plate.	Gilt Colour.
<b>F 4179</b>	1	ins. 3 × 3	each. 2/9
	2	5½ × 3	4/6
	3	7½ × 3	5/6
	4	9½ × 3	6/9
	4	5½ × 5½	



**F 4191**  
2 in. Centres

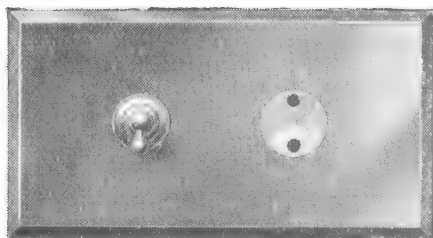
Cat. No.	No. of Switch holes.	Size of Plate.	Gilt Colour.
<b>F 4191</b>	1	ins. 3½ × 3½	each. 6/9
	2	5½ × 3½	9/6
	3	7½ × 3½	12/6
	4	5½ × 5½	15/-

This plate can be supplied either vertical or horizontal.



**F 4195**  
2in. Centres

Cat. No.	No. of Switch holes.	Size of Plate.	Gilt Colour.
<b>F 4195</b>	1	ins. 3½ × 3½	each. 4/3
	2	5½ × 3½	6/6
	3	7½ × 3½	8/3
	4	5½ × 5½	11/6

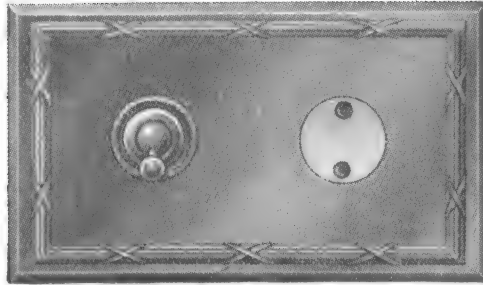


**F 4197**

Cat. No.	Size of Plate.	Arranged for Switch and plug.	Pol. Brass.	Ox. Copper finish.	Ox. Silver finish.
<b>F 4197</b>	ins. 5½ × 3	S 400 5 amp switch and S 774 plug and socket.	each.	each.	each.
	6½ × 3½	15 amp. switch and 15 amp. plug and socket.	1/9	2/-	2/3
			2/6	2/9	3/-

Prices do not include Switches, Plugs or Rings.

**ELECTRIC LIGHT FITTINGS  
ACCESSORIES  
SWITCH PLATES**

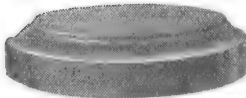


**F 4199**

Cat. No.	Size of Plate.	Arranged for Switch and Plug.	Gilt Colour.
	ins.		each.
<b>F 4199</b>	$5\frac{1}{2} \times 3$	S <b>406</b> 5 amp. switch, and S <b>774</b> plug and socket	<b>4 0</b>
	$6\frac{1}{2} \times 3\frac{1}{2}$	15 amp. switch, and 15 amp. plug and socket..	<b>5 0</b>

*Prices do not include switches, plugs or rings.  
For bakelite switch plates, see pages 450 and 451.*

**WOOD BLOCKS  
ROUND RECESSED TYPES**



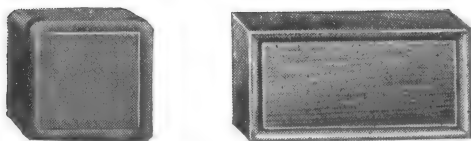
**F 4201/27**

Catalogue No.	Size at Back.	Size on Face.	Thick-ness	Imitation Walnut.	White Enamelled.	Real Teak.
	ins.	ins.	in.	per doz.	per gross	per doz. per gross
F <b>4201</b>	$2\frac{1}{4}$	$2\frac{3}{8}$	$\frac{1}{2}$	<b>1/8</b>	<b>18/-</b>	<b>1/10 19/9 4/- 45/-</b>
F <b>4202</b>	$2\frac{1}{2}$	$2\frac{1}{2}$	$\frac{7}{8}$	<b>1/8</b>	<b>18/9</b>	<b>1/10 20/6 4/3 48/-</b>
F <b>4203</b>	3	$2\frac{3}{8}$	$\frac{5}{8}$	<b>1/8</b>	<b>18/9</b>	<b>1/10 20/6 4/3 48/-</b>
F <b>4205</b>	$3\frac{1}{2}$	$2\frac{1}{2}$	$\frac{3}{4}$	<b>1/9</b>	<b>19/6</b>	<b>1/10 20/6 4/3 48/-</b>
F <b>4207</b>	$3\frac{1}{2}$	$2\frac{7}{8}$	1	<b>1/9</b>	<b>19/6</b>	<b>1/10 20/6 4/3 48/-</b>
F <b>4208</b>	$3\frac{1}{2}$	$2\frac{3}{4}$	$\frac{1}{2}$	<b>1/8</b>	<b>18/9</b>	<b>1/9 19/6 4/3 48/-</b>
F <b>4209</b>	$3\frac{1}{2}$	$2\frac{1}{2}$	$1\frac{1}{2}$	<b>2/6</b>	<b>28/-</b>	<b>2/9 30/- 5/6 60/-</b>
F <b>4211</b>	$3\frac{1}{2}$	$3\frac{1}{2}$	1	<b>3/-</b>	<b>33/-</b>	<b>3/3 36/- 6/- 66/-</b>
F <b>4213</b>	$4\frac{1}{2}$	$3\frac{3}{4}$	1	<b>4/-</b>	<b>42/-</b>	<b>4/3 45/- 7/6 84/-</b>
F <b>4215</b>	$4\frac{1}{2}$	4	1	<b>4/6</b>	<b>48/-</b>	<b>5/- 52/6 9/3 102/-</b>
F <b>4217</b>	$4\frac{1}{2}$	$4\frac{1}{2}$	1	<b>5/9</b>	<b>63/-</b>	<b>6/3 69/- 10/9 120/-</b>
F <b>4219</b>	$5\frac{1}{2}$	$4\frac{1}{2}$	1	<b>7/-</b>	<b>75/-</b>	<b>7/6 81/- 13/6 150/-</b>
F <b>4221</b>	6	$5\frac{1}{2}$	1	<b>7/3</b>	<b>84/-</b>	<b>7/9 90/- 15/6 180/-</b>
F <b>4223</b>	$6\frac{1}{2}$	$6\frac{1}{2}$	1	<b>10/-</b>	<b>114/-</b>	<b>10/6 120/- 18/6 216/-</b>
F <b>4225</b>	$7\frac{1}{2}$	7	1	<b>16/-</b>	<b>180/-</b>	<b>17/6 198/- 33/- 360/-</b>
F <b>4227</b>	$8\frac{1}{2}$	8	1	<b>19/9</b>	<b>216/-</b>	<b>21/6 234/- 44/- 480/-</b>

## ELECTRIC LIGHT FITTINGS ACCESSORIES

### SQUARE AND RECTANGULAR RECESSED BLOCKS

#### MORTICED, ROUND CORNERS



F 4231/59

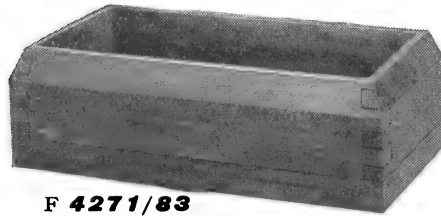
Cat. No.	No. of Switches (Space)	Size at Back.	Size on Face.	Thick-ness.	Imit. Walnut.		White Enamelled.		Real Teak.	
					per doz.	per gross	per doz.	per gross	per doz.	per gross
F 4231	1	ins. 3 × 3	ins. 2½ × 2½	in. 1	3/9	42/-	3/9	42/-	6/6	72/-
F 4232	For S 463 switch plug 2	4½ × 3	4 × 2½	1	4/6	51/-	4/6	51/-	8/-	90/-
F 4233		5½ × 3	5 × 2½	1	5/-	57/-	5/-	57/-	9/-	102/-
F 4234	For S 464 switch plug 3	5½ × 3½	5 × 3	1	5/6	63/-	5/6	63/-	10/-	114/-
F 4235		8 × 3	7½ × 2½	1	6/6	72/-	6/6	72/-	12/-	136/-
F 4237	4	10½ × 3	10 × 2½	1	8/6	96/-	8/6	96/-	16/6	186/-
F 4239	4	5½ × 5½	5 × 5	1	8/6	96/-	8/6	96/-	16/6	186/-
F 4241	6	8 × 5½	7½ × 5	1	12/-	132/-	12/-	132/-	23/-	264/-
F 4243	8	10½ × 5½	10 × 5	1	16/6	180/-	16/6	180/-	30/6	354/-
F 4245	9	8 × 8	7½ × 7½	1	16/6	180/-	16/6	180/-	30/6	354/-
F 4247	12	10½ × 8	10 × 7½	1	21/-	240/-	21/-	240/-	38/-	432/-
F 4249	16	10½ × 10½	10 × 10	1½	26/6	300/-	26/6	300/-	51/-	576/-
F 4251	For charging boards etc.	13 × 13	12½ × 12½	1½	49/6	540/-	49/6	540/-	63/-	720/-
F 4253		15½ × 12½	15 × 12	1½	63/-	690/-	63/-	690/-	96/-	1080/-
F 4255		18½ × 12½	18 × 12	1½	78/-	864/-	78/-	864/-	120/-	1368/-
F 4257		20½ × 12½	20 × 12	1½	92/-	1008/-	92/-	1008/-	138/-	1584/-
F 4258	4	6½ × 6½	6 × 6	1	9/9	111/-	—	—	—	—
F 4259	Two 10 amp. switches	7 × 4	6½ × 3½	1	7/6	84/-	7/6	84/-	13/-	144/-

### SQUARE AND RECTANGULAR THIN RECESSED BLOCKS

Cat. No.	No. of Switches (Space)	Size at Back.	Size on Face.	Thick-ness.	Imit. Walnut.		White Enamelled.		Real Teak.	
					per doz.	per gross	per doz.	per gross	per doz.	per gross
F 4261	1	ins. 3 × 3	ins. 2½ × 2½	in. ½	3/6	39/-	3/6	39/-	6/6	72/-
F 4263	2	5½ × 3	5 × 2½	½	4/9	54/-	4/9	54/-	9/-	102/-
F 4265	3	8 × 3	7½ × 2½	½	6/6	72/-	6/6	72/-	12/-	136/-
F 4267	4	10½ × 3	10 × 2½	½	8/6	96/-	8/6	96/-	16/6	186/-
F 4269	4	5½ × 5½	5 × 5	½	8/6	96/-	8/6	96/-	16/6	186/-

## ELECTRIC LIGHT FITTINGS ACCESSORIES

### SWITCH BOXES

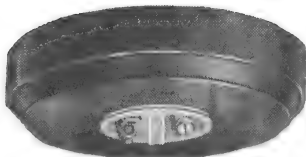


**F 4271/83**

Catalogue No.	No. of Switches. (Space).	Dimensions.			Price per doz.	
		Length.	Width.	Depth inside.	Real Teak.	Hardwood.
		ins.	ins.	ins..		
F 4271	1	2½	2½	1 ½	4/3	3/3
F 4273	2	5	2½		6/6	4/3
F 4276	3	7	2½		9/-	5/3
F 4277	4	9	2½		13/6	8/9
F 4279	4	5	5		13/6	8/9
F 4281	6	7	5		22/6	12/-
F 4283	15 amp. switch and plug.	6½	3½	1 7/16	11/3	—

These Boxes are made in well-seasoned wood, strongly glued, morticed and sprigged.

### THE "NEW ERA" FIXTURE BLOCKS



**F 4284**

The "New Era" Fixture Block effectually overcomes the old objection to "Hand-made Joints" and considerably expedites wiring. The porcelain connector is fixed to the wood block by means of screws which are provided.



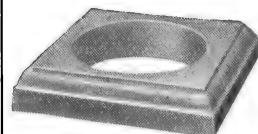
**F 4286**

Cat. No.	4in. Face.	Single Circuit. doz.
F 4284	Imitation Walnut ..	12/6
	White Enamelled ..	13/6
	Porcelain interior only	8/6

Cat. No.	4in. Face.	Two Circuit. doz.
F 4286	Imitation Walnut ..	16/6
	White Enamelled ..	17/6
	Porcelain interior only	12/6

Cat. No.	No. of Switches (Space).	Dimensions.	Imitation Walnut.	White Enamelled.	Real Teak.
		ins.	per doz. gross.	per doz. gross.	per doz. gross.
F 4291	1	3 × 3	5/6 60/-	6/- 66/-	8/6 96/-
F 4293	2	5½ × 3	7/9 87/-	8/- 90/-	9/6 108/-
F 4295	3	8 × 3	10/6 120/-	12/- 138/-	16/6 186/-
F 4297	4	5½ × 5½	14/6 168/-	15/6 180/-	21/- 240/-
F 4299	1	Round 3½ dia.	3/- 33/-	3/3 36/-	6/- 66/-
Suitable for "Slick" and "Londor" Semi-recessed Switches.					
F 4289	1	2½ × 2½	4/3 45/-	4/6 48/-	6/6 72/-
Suitable for S 263/4 "Londor Junior" Semi-recessed Switches.					
F 4300	1	3½ × 3½	6/3 69/-	6/9 75/-	9/6 108/-
Suitable for S 298/9 "Londor Senior" Semi-recessed Switches.					

### RECESSED SWITCH BLOCKS



**F 4291—F 4299**

# S&C

## ELECTRIC LIGHT FITTINGS ACCESSORIES

### POLISHED BRASS BRACKETS.



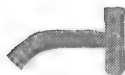
F 4301



F 4303



F 4305



F 4307

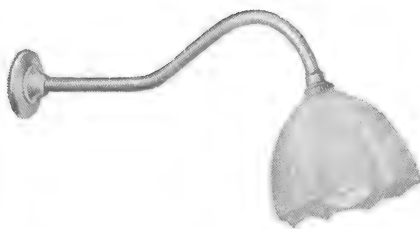


F 4311/19



F 4321/29

Cat. No.	Description.	Pro- jection	Back plate.	Price per doz.
		ins.	ins.	
F 4301	$\frac{3}{8}$ in. Tube.	2 $\frac{1}{2}$	2 x $\frac{7}{8}$	12/6
	$\frac{1}{2}$ in. Tube.	2 $\frac{1}{2}$	2 x $\frac{7}{8}$	14/6
F 4303	$\frac{3}{8}$ in. Tube.	2 $\frac{1}{2}$	2 $\frac{1}{2}$	13/6
	$\frac{1}{2}$ in. Tube.	2 $\frac{1}{2}$	2 $\frac{1}{2}$	14/6
F 4305	$\frac{1}{2}$ in. Tube.	5	2 $\frac{1}{2}$	47/6
F 4307	$\frac{1}{2}$ in. Tube.	2 $\frac{1}{2}$	2 x $\frac{7}{8}$	14/6
F 4311	$\frac{1}{2}$ in. Tube (canting)	6	2 $\frac{1}{2}$	14/6
F 4313	ditto.	9	2 $\frac{1}{2}$	18/-
F 4315	ditto.	12	2 $\frac{1}{2}$	22/6
F 4317	ditto.	15	2 $\frac{1}{2}$	39/-
F 4319	ditto.	18	2 $\frac{1}{2}$	46/6
F 4321	$\frac{1}{2}$ in. Tube (perpendicular)	6	2 $\frac{1}{2}$	14/6
F 4323	ditto.	9	2 $\frac{1}{2}$	18/-
F 4325	ditto.	12	2 $\frac{1}{2}$	22/6
F 4327	ditto.	15	2 $\frac{1}{2}$	39/-
F 4329	ditto.	18	2 $\frac{1}{2}$	46/6
F 4331	$\frac{1}{2}$ in. Tube (can- ting), Cast plate.			
	Brass .. ..	6	2 $\frac{1}{2}$	39/-
	Enamelled steel	6	2 $\frac{1}{2}$	25/6
F 4333	ditto.			
	Brass .. ..	9	2 $\frac{1}{2}$	43/6
	Enamelled steel	9	2 $\frac{1}{2}$	27/-
F 4335	ditto.			
	Brass .. ..	12	2 $\frac{1}{2}$	49/6
	Enamelled steel	12	2 $\frac{1}{2}$	28/6
F 4337	ditto.			
	Brass .. ..	18	2 $\frac{1}{2}$	54/-
	Enamelled steel	18	2 $\frac{1}{2}$	42/-
F 4339	ditto.			
	Brass .. ..	24	2 $\frac{1}{2}$	69/-
	Enamelled steel	24	2 $\frac{1}{2}$	48/-
F 4341	$\frac{3}{8}$ in. Tube (per- pendicular), Cast plate.			
	Brass .. ..	6	2 $\frac{1}{2}$	39/-
F 4343	ditto.	9	2 $\frac{1}{2}$	43/6
F 4345	ditto.	12	2 $\frac{1}{2}$	49/6



F 4331/39

*Prices are exclusive of lamps, lampholders and shades.*

## ELECTRIC LIGHT FITTINGS ACCESSORIES

### REFLECTORS FOR SHOP WINDOWS, SHOW CASES, ETC.

Cat. No.	Description and Finish.	Price each.	
		s.	d.
F 4351	{ Shell type. Nickelled. For 25 Watt Pearl Osram Lamps. }	3	0
F 4353	{ As F 4351 but for Pearl Osram Lamps up to 60 watts. }	3	3
F 4357	{ Fluted scoop type. Nickelled. For Pearl Osram Lamps up to 60 watts. }	2	9
F 4361	{ Plain scoop type. Nickelled. For Pearl Osram Lamps up to 60 watts. }	2	9
F 4363	{ Tubular type. Nickelled. For S.B.C. lampholders and 25 watt Osram Tubular Lamps. }	2	0
F 4369	{ Bracket (projection 5in.) with Adjustable Clamp, Knuckle Joint and Reflector with S.B.C. Lampholder for Osram Tubular Lamp. Chromium plated. }	29	6
F 4371	{ Reflector with S.B.C. lampholder for Osram Tubular Lamp. ½ in. Brass Female thread, Knuckle Joint. Polished brass. }	10	6
	{ ditto. Oxidised copper. }	11	6
	{ ditto. Oxidised silver. }	12	6

*Prices do not include lamps or lampholders, except where otherwise stated.*



F 4351/3



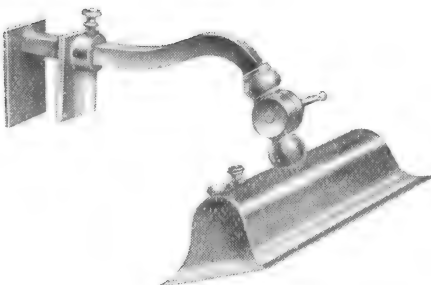
F 4357



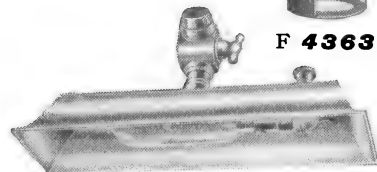
F 4361



F 4363



F 4369

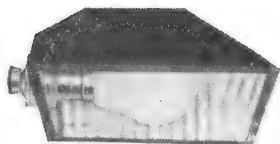


F 4371

# S.E.C.

## ELECTRIC LIGHT FITTINGS ACCESSORIES

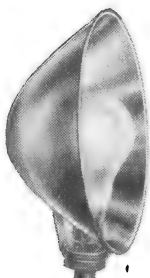
**REFLECTORS FOR SHOP WINDOWS, SHOW CASES, ETC.**



**F 4373**



**F 4381**



**F 4383/5**

Cat. No.	Description and Finish.	Price each.	
		s.	d.
F 4373	{ Japanned outside, lined Silvered Mirror. For 25 watt Pearl Osram Lamp. }	11	0
F 4375	{ As F 4373 but for Pearl Osram Lamps up to 60 watt size. }	11	6
F 4377	{ Round conic reflector, 2½ in. lip. White outside. Mirror lined. 9 ins. diameter. For 100 watt Pearl Osram Lamp. }	12	0
F 4379	{ Round Conic Reflector, Japanned Black, lined with Silvered Mirror Glass, with 1½ in. opening and Ventilation Holes. For Pearl Osram Lamps up to 60 watts. }		
	8 × 4 ins.	6	9
	10 × 5 ins.	10	6
	12 × 6 ins.	13	6
	15 × 7½ ins.	17	0
F 4381	{ Hemispherical. Nickelled. For Pearl Osram Lamps up to 60 watts. }	6	9
F 4383	{ Horizontal Parabolic. Nickelled. For 25 watt Pearl Osram Lamp. }	6	3
F 4385	{ As F 4383 but for Pearl Osram Lamps up to 60 watts. }	7	6
F 4391	{ Vertical Parabolic. Nickelled. For 25 watt Pearl Osram Lamp. }	6	6
F 4393	{ As F 4391 but for Pearl Osram Lamps up to 60 watts. }	7	6

*Prices do not include Lamps or Lampholders.*

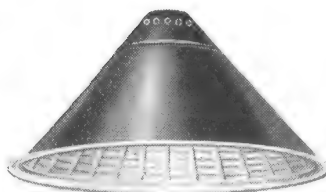
**For "Gecoray" reflectors see pages 615-625.**



**F 4377**



**F 4391/3**

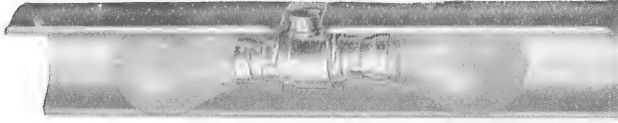


**F 4379**



## ELECTRIC LIGHT FITTINGS ACCESSORIES

### REFLECTORS FOR SHOP WINDOWS AND SHELVES



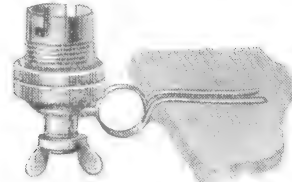
**F 4407/09 .**



**F 4413**

Cat. No.	Description and Finish.	Price per 13in. length.	
		s.	d.
<b>F 4407</b> (Series)	{ Steel Bronzed outside, Nickel plated inside. Including Nickel plated Double Holder. Sup- plied in lengths, 13ins., 26ins., and 39ins., taking two 25 watt Pearl Osram Lamps per 13in. }	<b>15</b>	<b>6</b>
<b>F 4409</b> (Parallel)		<b>15</b>	<b>6</b>

When ordering state length required and Catalogue No.  
F **3585** for attaching to Tap Bar, **7/-** doz.



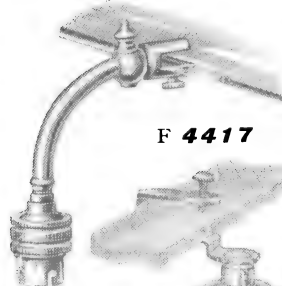
**F 4411**

### CLIPS AND BRACKETS

Cat. No.	Description and Finish.	Price each.	
		s.	d.
<b>F 4411</b>	{ Jewellers' Shelf Clip. Silver plated. }	<b>6</b>	
<b>F 4413</b>	{ Bracket to screw to Tap Bar. 1½in. hole for Lampholder. Brass .. .. . }	<b>5</b>	
<b>F 4415</b>	{ Shelf bracket. Polished Brass.. Shelf bracket. Nickelled .. . }	<b>10</b>	<b>0</b>
<b>F 4417</b>	{ Glass Shelf Bracket. Arm can be attached to Clip horizontally as shown, or screwed vertically into body. Polished Brass .. .. . }	<b>2</b>	<b>3</b>
<b>F 4419*</b>	{ Adjustable Bracket. Polished or bronzed brass.. Nickelled .. .. . }	<b>2</b>	<b>3</b>
<b>F 4421</b>	{ Shelf Clip Bracket. The Clip grips the shelf and will ac- commodate itself to varying thicknesses. The socket hold- ing Lampholder swivels in any direction, there being two movements to allow of this. Nickel plated. }	<b>2</b>	<b>6</b>

Prices do not include Lamps or Lampholders, except where  
otherwise stated.

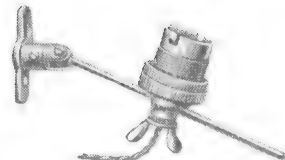
\*Extra for Lampholders for F **4419**: Brass, **1/9** ;  
Nickel plated, **2/6** each.



**F 4417**



**F 4415**



**F 4419**



**F 4421**

# S.E.C.

## "STRIPLITE" REFLECTORS

FOR SHOP WINDOWS AND SHOWCASES



**F 4431**

The standard finish is polished aluminium inside and outside, but "Striplite" can be supplied polished inside and enamelled any colour outside at a slight increase in price.

Catalogue No.	For OSRAM "Striplite" Lamp.		No. of Lamps.	F 4431				F 4432			
	Wattage	Length.		Length.	221 m/m size		Length.	284 m/m size			
					Price each.			Price each.			
				ft.	ins.	s.	d.	ft.	ins.	s.	d.
F 4431	30	221 m/m (approx. 8 $\frac{11}{16}$ " )	1	1	0	5	6	1	2 $\frac{1}{2}$	6	6
			2	1	10	10	6	2	3	12	6
			3	2	8	15	9	3	3	18	9
F 4432	60	284 m/m (approx. 11 $\frac{3}{16}$ " )	4	3	6	21	0	4	3 $\frac{1}{2}$	25	0
			6	5	2	31	6	6	4	37	6



**F 4433** (As F 4431 but extra wide on one side.)

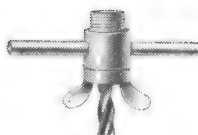
Catalogue No.	For OSRAM "Striplite" Lamp.		Approx. overall length of single unit.	Price per unit length (without lamps)	
	Wattage.	Length.		s.	d.
<b>F 4433</b>	30	221 m/m (approx. 8 $\frac{11}{16}$ " )	12 inches	<b>6</b>	<b>9</b>

Stocked in 1, 2, 3, 4 and 6 lamp lengths. (Approx. overall lengths, 12, 22, 32, 42 and 62 ins. respectively).

*Prices and particulars of other designs of aluminium "Striplite" on application.*

*Prices do not include Lamps.*

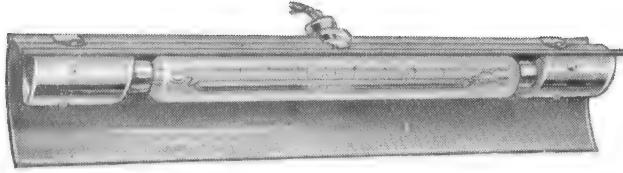
### CONVERSION NIPPLE



**F 4423**

Cat. No.	Description and Finish.	Price each.
<b>F 4423</b>	Nipple for conversion of Tap Bar Lampholder. For F 4419 Bracket. See previous page.	s. d. <b>1 0</b>

**“STRIPLITE”**  
FOR PICTURES AND SHOWCASES



**F 4435** (Extra wide one side.)

Catalogue No.	For OSRAM “Striplite” Lamp		Approx. Overall Length.	Price per unit length.	
	Wattage.	Length.		s.	d.
<b>F 4435</b>	30	221 m/m (approx. 8 $\frac{11}{16}$ ”)	12 inches	<b>9</b>	<b>0</b>

Fitted at back with  $\frac{1}{2}$  in. brass nozzle female.

**F 4435** can also be supplied with *sprayed bronze or gilt colour outside* at **12/6** per unit length.

**SKELETON STRIP**



**F 4455/7**

Catalogue No.	For OSRAM “Striplite” Lamp.		Price per unit length (without lamp).
	Wattage	Length.	
<b>F 4455</b>	30	221 m/m (approx.) 8 $\frac{11}{16}$ ”)	s. d. <b>3 0</b>
<b>F 4457</b>	60	284 m/m (approx. 11 $\frac{3}{16}$ ”)	<b>3 0</b>

*Prices do not include Lamps.*

**CLIPS FOR “STRIPLITE”**



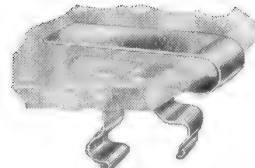
**F 4438**



**F 4439**



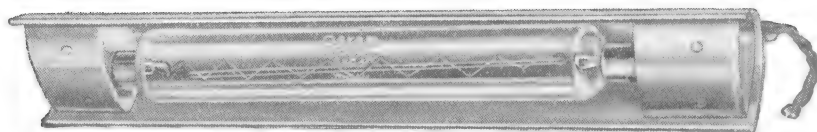
**F 4440**



Catalogue No.	Description and Finish.	Price
<b>F 4438</b>	Hinged fixing clip for <b>F 4431/2</b> “Striplite.”	s. d. each. <b>1 0</b>
<b>F 4439</b>	Nickel-plated Clips and L. Screws for fixing “Striplite” so that reflector can be adjusted to position required.	per doz. Sets <b>5 0</b>
<b>F 4440</b>	Shelf clip for <b>F 4431/2</b> “Striplite” ..	each. <b>2 0</b>

# G.E.C.

## "GIANT STRIPLITE"



**F 4437**

Catalogue No.	For OSRAM "Striplite" Lamp.		Approx. overall length of single unit.	Price per unit length without lamps.	
	Wattage	Length.		s.	d.
<b>F 4437</b>	100	309 m/m 12 $\frac{1}{8}$ " (approx.)	16 in.	<b>12</b>	<b>0</b>

Stocked in one and two lamp lengths. (Approx. overall lengths 16 and 30 ins. respectively).  
*Price does not include Lamp.*

## "CHINA STRIPLITE"



**F 4447**

**F 4441/3/5**

**F 4449**

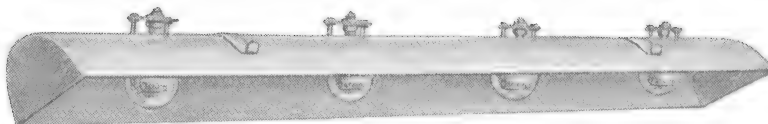
For 30 watt OSRAM "Striplite" Lamps. Length 221 m/m (approx. 8 $\frac{1}{8}$  ins.).

Catalogue No.	Description.	Length of Part.	Price each.	
		inches.	s.	d.
<b>F 4441</b>	Standard length Series .. ..	9 $\frac{1}{8}$	<b>7</b>	<b>6</b>
<b>F 4443</b>	Standard length Parallel Right ..	9 $\frac{1}{8}$	<b>7</b>	<b>6</b>
<b>F 4445</b>	Standard length Parallel Left ..	9 $\frac{1}{8}$	<b>7</b>	<b>6</b>
<b>F 4447</b>	End Piece .. ..	1 $\frac{1}{8}$	<b>3</b>	<b>6</b>
<b>F 4449</b>	Circuit Connector .. ..	$\frac{1}{2}$	<b>3</b>	<b>6</b>
Price per single lamp length, including end piece and circuit connector			<b>14</b>	<b>6</b>

*Prices do not include Lamps.*

## SHOP WINDOW REFLECTORS

A scientifically designed trough reflector consisting of a metal housing finished white outside, lined with opal and high grade mirror glass. Suitably ventilated for use with 100 watt Pearl OSRAM gasfilled lamps and supplied in convenient lengths complete with B.C. lampholders. Lampholders are spaced 12" or 18" apart.

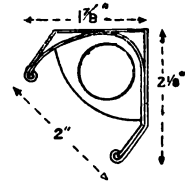


**F 4451**

Suitable for shop windows in which the distance from back to front does not exceed two-thirds of the height.

This is one example from the G.E.C. range of trough reflectors for shop or cornice lighting.  
*Prices on application.*

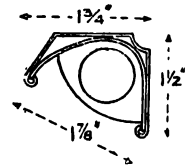
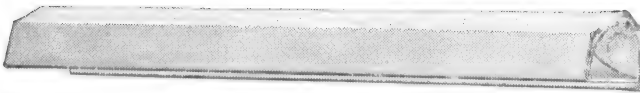
# **"STRIPLITE"**



**F 4461**

Aluminium " Striplite " with cover finished in bronze colour (other colours can be supplied to order).

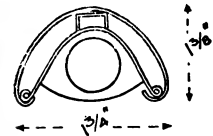
Catalogue No.	For OSRAM " Striplite " lamp.	No. of lamps.	Length.		Price each.	
			ft.	ins.	s.	d.
<b>F 4461</b>	{ 30 watt. 221 m/m (approx. $8\frac{11}{16}$ ins.)	{ 1	1	0	<b>9</b>	<b>0</b>
		{ 2	1	10	<b>18</b>	<b>0</b>
		{ 3	2	8	<b>27</b>	<b>0</b>
		{ 4	3	6	<b>36</b>	<b>0</b>



**F 4463**

Aluminium " Striplite " reflector with cover finished in bronze colour.

Catalogue No.	For OSRAM " Striplite " lamp.	No. of lamps.	Length.		Price each.	
			ft.	ins.	s.	d.
<b>F 4463</b>	{ 30 watt. 221 m/m (approx. $8\frac{11}{16}$ ins.)	{ 1	1	0	<b>9</b>	<b>6</b>
		{ 2	1	10	<b>19</b>	<b>0</b>
		{ 3	2	8	<b>28</b>	<b>6</b>
		{ 4	3	6	<b>38</b>	<b>0</b>



**F 4462**

Aluminium " Striplite " reflector with cover finished bronze colour or in stainless steel.

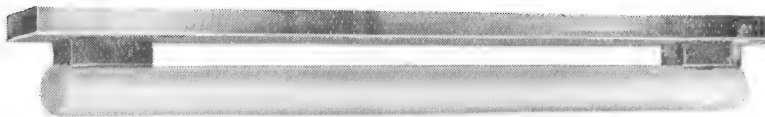
Catalogue No.	For OSRAM " Striplite " lamp.	No. of lamps.	Length.		Bronze colour each.		Stainless Steel, each.	
			ft.	ins.	s.	d.	s.	d.
<b>F 4462</b>	{ 30 watt. 221 m/m (approx. $8\frac{11}{16}$ ins.)	{ 1	1	0	<b>9</b>	<b>0</b>	<b>11</b>	<b>6</b>
		{ 2	1	10	<b>18</b>	<b>0</b>	<b>23</b>	<b>0</b>
		{ 3	2	8	<b>27</b>	<b>0</b>	<b>34</b>	<b>6</b>
		{ 4	3	6	<b>36</b>	<b>0</b>	<b>46</b>	<b>0</b>

*Prices do not include lamps.*

# S.E.C.

## "STRIPLITE"

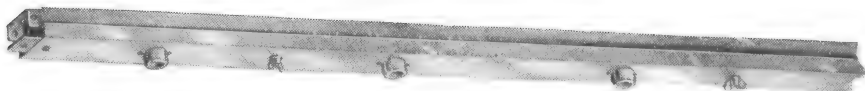
FOR OSRAM ARCHITECTURAL LAMPS AND CONCEALED LIGHTING



**F 4465/6/7**

Chromium Plated "Striplite" for OSRAM architectural lamps.

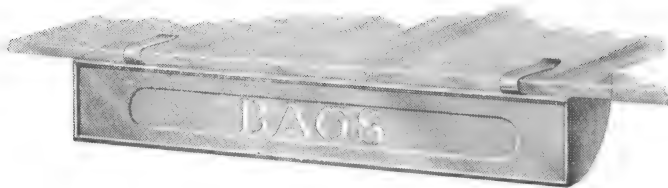
Catalogue No.	For OSRAM architectural lamp		Price each
	m/m	ins.	
F 4465	303	12	<b>17/6</b>
F 4466	500	19 $\frac{1}{8}$	<b>19/6</b>
F 4467	610	24	<b>22/6</b>



**F 4475/6/7/8**

Channelling for concealed lighting effects, wired complete with porcelain B.C. lampholders.

Catalogue No.	Spacing of lampholders	Wired for 1 circuit	Wired for 2 circuits	Wired for 3 circuits
		Per foot	Per foot	Per foot
F 4475	12in. centres	<b>3/3</b>	<b>4/-</b>	<b>4/9</b>
F 4476	9in. centres	<b>4/-</b>	<b>4/6</b>	<b>5/3</b>
F 4477	6in. centres	<b>5/3</b>	<b>5/6</b>	<b>6/6</b>
F 4478	4in. centres	<b>6/6</b>	<b>7/3</b>	<b>8/-</b>



**F 4479**

Sign for fixing to glass shelves.

Stencilled letters as desired, backed with white opal glass.

Arranged for one 30 watt, 221 m/m (8 $\frac{1}{8}$ in.) OSRAM "Striplite" lamp.

Catalogue No.	Finish	Length		Price each		
		ins.		£	s.	d.
F 4479	{ Real Bronze Colour Chromium Plated }	12 $\frac{1}{2}$		<b>1</b>	<b>5</b>	<b>6</b>
				<b>1</b>	<b>9</b>	<b>6</b>

*Prices include Lampholders but not Lamps.*

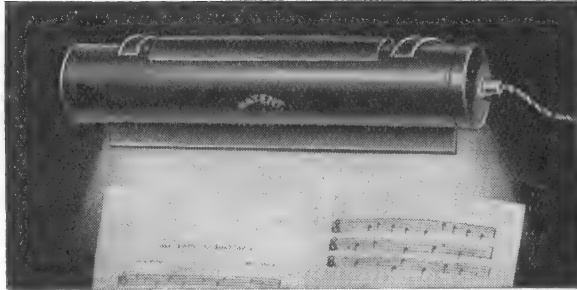
# **ELECTRIC LIGHT FITTINGS ACCESSORIES**

## **REFLECTORS FOR READING DESKS, MUSIC STANDS, ETC.**

Cat. No. F **4481**

Orchestra Light. Japanned Black. Suitable for one Pearl OSRAM Lamp up to 40 watts.

**Price 7/-** each.



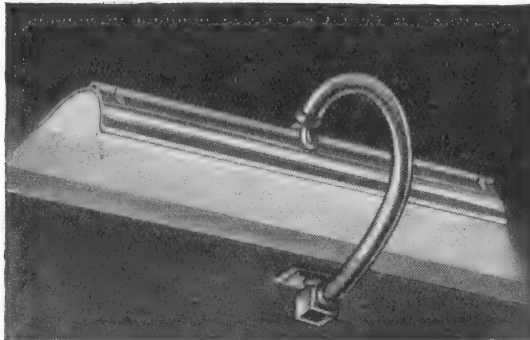
**F 4481**

Cat. No. F **4483**

Pulpit or Reading Desk Light. Polished Brass Bracket and "Striplite" reflector with lamp-holders.

**Price 16/6** each.

Suitable for use with one 221 m/m (8 $\frac{1}{2}$  ins.) 30 watt OSRAM "Striplite" lamp.



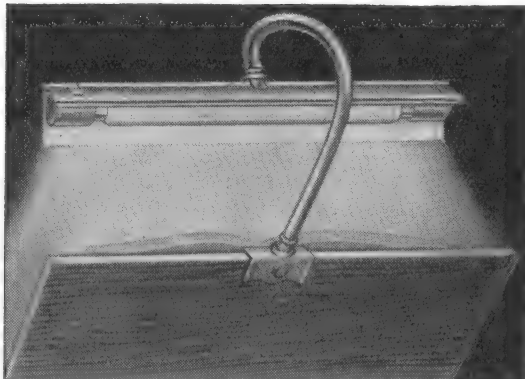
**F 4483**

Cat. No. F **4485**

"Striplite" Music Desk Light. Polished Brass Bracket and "Striplite" reflector with lamp-holders.

**Price 21/-** each.

Suitable for use with one 221 m/m (8 $\frac{1}{2}$  ins.) 30 watt OSRAM "Striplite" lamp.



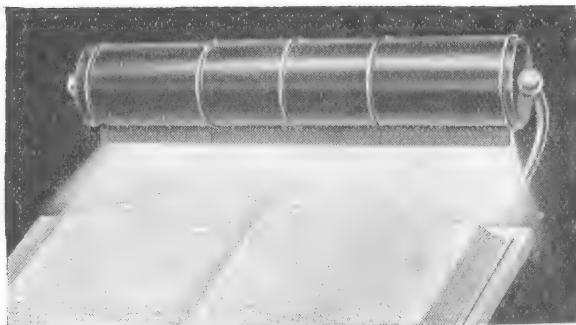
**F 4485**

*Prices do not include Lamps or Lampholders except where stated.*

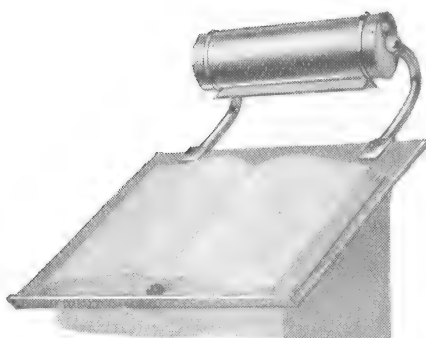
# S.E.C.

## ELECTRIC LIGHT FITTINGS ACCESSORIES

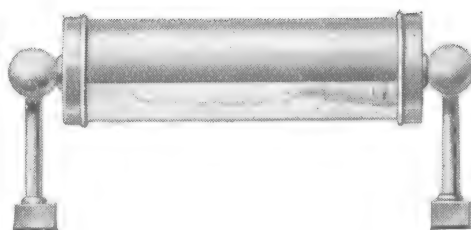
### REFLECTORS FOR READING DESKS, MUSIC STANDS, ETC.



**F 4491**



**F 4493**



**F 4495**

Catalogue No.	Description and Finish	Price each
<b>F 4491</b>	Telescopic Pulpit or Reading Desk Light. Adjustable in length, giving a range of from 12 to 18 ins., to suit any width Pulpit or Reading Desk. Suitable for two Pearl OSRAM lamps up to 40 watts. Can also be raised and lowered.	
	Black Enamelled .. ..	<b>57/-</b>
	Polished Brass .. ..	<b>75/-</b>
<b>F 4493</b>	Desk Light. Arranged for one 60 watt Pearl OSRAM lamp. Reflector 8 ins. Polished Brass .. ..	<b>37/6</b>
<b>F 4495</b>	For one 25 watt OSRAM Tubular lamp with clamps for fixing. Reflector 6½ ins. Polished Brass .. ..	<b>17/6</b>
<b>F 4497</b>	As above, but with screw on plates instead of clamps	<b>17/6</b>

*Prices do not include lamps or lampholders.*



## GLASSWARE FOR ELECTRIC LIGHTING

*Superlux*  
GIVES PERFECT LIGHT

### REFLECTORS—(Distributing Type)

Catalogue No.	Dimensions.			OSRAM Lamp recommended.	Price each.	
	Lip.	Width.	Height.			
	ins.	ins.	ins.	Watts.	s.	d.
G 100	2½	5	3½	15 or 25*	3	3
G 102	2½	5½	4½	40*	4	0
G 103	1½ hole	5½	5½	40*	4	0
G 104	2½	7½	5½	60 or 100*	6	0
G 106	3½	11	6½	150	11	3
G 108	3½	12½	8	200	15	0



G 100/8



G 122/4

### REFLECTORS—(Concentrating Type)

Catalogue No.	Dimensions.			OSRAM Lamp recommended.	Price each.	
	Lip.	Width.	Height.			
	ins.	ins.	ins.	Watts.	s.	d.
G 122	2½	6½	4½	40*	4	0
G 124	2½	7½	5½	60 or 100*	6	0

### GLOBES

Catalogue No.	Lip.	Diam.		OSRAM Lamp recommended.	Price each.	
		ins.	ins.			
				Watts.	s.	d.
G 140	3½	6		40*	3	9
G 143	4	7½		60 or 100*	5	3
G 145	4	10		100*	10	6
G 146	8½	12		150 or 200	16	6
G 148	8½	16		200 or 300	45	0



G 140/8

### HEMISPHERES

Catalogue No.	Dimensions.			OSRAM Lamp recommended.	Price each.	
	Diam. over Flange.	Diam. under Flange.	Depth.			
	ins.	ins.	ins.	Watts.	s.	d.
G 162	10	9½	4½	60*	6	9
G 164	12	11½	5½	60 or 100*	10	0
G 166	14	13½	6½	150 or 200	15	6
G 168	16	15½	7½	200 or 300	30	0



G 162/8

### REFLECTORS—(for Hemispheres)

Catalogue No.	Diam.		Lip.	Price each.	
	ins.	ins.			
G 191	10	3½		6	9
G 192	12	3½		10	0
G 193	14	3½		15	6
G 194	16	3½		30	0



G 191/4

\*Pearl OSRAM Lamps are recommended for use with these Glasses.

# S.E.C.

## GLASSWARE FOR ELECTRIC LIGHTING



**G 350/4**

### " MAGNALITE " REFLECTORS

Catalogue No.	Size.	OSRAM Lamp recommended.	Price each.
	ins.	Watts.	s. d.
G 350	$5\frac{1}{2} \times 4\frac{1}{2} \times 2\frac{1}{4}$	40*	3 0
G 352	$6\frac{1}{2} \times 5\frac{1}{2} \times 2\frac{1}{4}$	60 or 100*	4 6
G 354	$9\frac{1}{2} \times 6\frac{1}{2} \times 3\frac{1}{4}$	150	8 3

## Equilux

### REFLECTORS—(Distributing Type)



**G 1500/8/22**

Catalogue No.	Size.	OSRAM Lamp recommended.	Price each.
	ins.	Watts.	s. d.
G 1500	$5 \times 3\frac{1}{2} \times 2\frac{1}{4}$	15 or 25*	3 9
G 1502	$5\frac{1}{2} \times 4\frac{1}{2} \times 2\frac{1}{4}$	40*	4 6
G 1504	$7\frac{1}{4} \times 4\frac{1}{2} \times 2\frac{1}{4}$	60*	5 9
G 1506	$8 \times 6\frac{1}{8} \times 2\frac{1}{4}$	100*	9 6
G 1508	$10\frac{1}{2} \times 6\frac{1}{2} \times 3\frac{1}{4}$	200	14 0
G 1522	$12 \times 7\frac{3}{8} \times 3\frac{1}{4}$	200 or 300	24 0

### GLOBES—(Doric)



**G 1540/6**

Catalogue No.	Size.	Price each.
	ins.	s. d.
G 1540	$6 \times 6 \times 3\frac{1}{4}$	6 6
G 1542	$8 \times 8 \times 4$	8 9
G 1544	$10 \times 10 \times 5$	15 0
G 1546	$12 \times 12 \times 6$	25 6

### HEMISPHERES—(Georgian)



**G 1532/8**

Catalogue No.	Diam.	OSRAM Lamp recommended.	Price each.
	ins.	Watts.	s. d.
G 1532	10	60*	13 0
G 1534	12	60 or 100*	21 0
G 1536	14	150 or 200	35 6
G 1538	16	200 or 300	50 6

\* Pearl OSRAM Lamps are recommended for use with these Glasses.

## GLASSWARE FOR ELECTRIC LIGHTING

### "HOLOPHANE" REFLECTORS

#### Extensive Type

Catalogue No.	Holo-phane No.	Lip.	Diam.	Depth.	OSRAM Lamp recommended	Price each.
		ins.	ins.	ins.	Watts.	s. d.
G 1001	E 25	2½	5½	4½	*15 or 25	3 3
G 1002	E 40	2½	6½	4½	*40	3 9
G 1003	E 60	2½	6½	4½	*60	4 3
G 1008	E 100	2½	8½	5½	*100	6 0
G 1005	E 200	3½	9½	6½	150 or 200	12 0



G 1001/8

#### Intensive Type

Catalogue No.	Holo-phane No.	Lip.	Diam.	Depth.	OSRAM Lamp recommended	Price each.
		ins.	ins.	ins.	Watts.	s. d.
G 1011	I 25	2½	6	4	*15 or 25	3 3
G 1012	I 40	2½	6½	4½	*40	3 9
G 1013	I 60	2½	7	4½	*60	4 3
G 1018	I 100	2½	8½	5½	*100 or 150	6 0
G 1015	I 200	3½	10½	6½	200	12 0



G 1011/8

### REFLECTOR BOWLS

#### Stilleto Type

Catalogue No.	Holo-phane No.	Diam. over Flange.	Lip.	OSRAM Lamp recommended	Price each.
		ins.	ins.	Watts.	s. d.
G 1210	7910	10	3½	*60	14 6
G 1212	7912	12	3½	*100 or 150	22 6
G 1214	7914	14	3½	150 or 200	42 0
G 1216	7916	16	4	300	65 0



G 1210/6

#### Reflector Refractor Type

Catalogue No.	Holo-phane No.	Diam.	Height.	Lip.	OSRAM Lamp recommended	Price each. †
		ins.	ins.	ins.	Watts.	s. d.
G 1340	2110	7½	4½	2½	*60	8 9
G 1342	2120	9½	6½	3½	*100 or 150	17 6
G 1344	2130	11½	8½	4	200 or 300	37 9
G 1346	2140	14	9½	4	300 or 500	54 6



G 1340/6

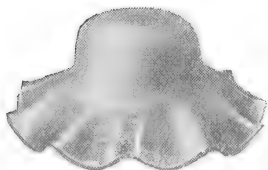
† Bottom cups can be supplied at the following additional prices : G 1340 1/6, G 1342 2/-, G 1344 2/3, G 1346 3/- each.

\*Pearl OSRAM Lamps are recommended for use with this Glassware.

# S.E.C.

## GLASSWARE FOR ELECTRIC LIGHTING

### FANCY SHADES



**G 6651/5  
LANGHAM**



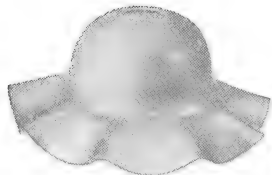
**G 6661  
CYLINDER**

#### LANGHAM

Cat. No.	Description.	Size inches.	Price each.
G 6651	Plain opal,	10 × 3½ × 1½ hole	<b>4/9</b>
G 6653	flint edge.	7½ × 3 × 1½	<b>3/-</b>
G 6655		6 × 3 × 1½	<b>2/9</b>

#### CYLINDER

Cat. No.	Description.	Size inches.	Price each.
G 6661	Opalescent or satin finish.	4½ × 6	<b>4/6</b>



**G 6671  
LANGSIDE**



**G 6673  
DOWLIND**

#### LANGSIDE

Cat. No.	Description.	Size inches.	Price each.
G 6671	Opalescent.	7½ × 3 × 1½ hole	<b>2/9</b>

#### DOWLIND

Cat. No.	Description.	Size inches.	Price each.
G 6673	White opal.	6 × 5 × 1½ hole	<b>1/9</b>



**G 6681  
LETTICE**



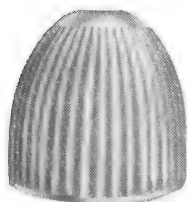
**G 6687  
KIXTON**

#### LETTICE

Cat. No.	Description.	Size inches.	Price each.
G 6681	Satin finish.	5½ × 5 × 1½ hole	<b>1/9</b>
G 6685	Do.	Do.	<b>2/-</b>
		(with 2½" lip)	

#### KIXTON

Cat. No.	Description.	Size inches.	Price each.
G 6687	Satin finish.	4½ × 5½ × 1½ hole	<b>1/9</b>



**G 6691  
BINNAKER**

*Pearl OSRAM  
Lamps are recom-  
mended for use  
with these Shades*

#### BINNAKER

Cat. No.	Description.	Size inches.	Price each.
G 6691	Satin finish.	5 × 4½ × 1½ hole	<b>2/-</b>
G 6693	Do.	Do.	<b>2/-</b>
		(with 2½" lip)	

# GLASSWARE FOR ELECTRIC LIGHTING

## FANCY SHADES

### LABURNAM

Cat. No.	Description.	Size inches.	Price each.
G 6697	Satin finish.	3½ × 5 × 2½ lip	1/9



G 6697  
LABURNAM



G 6699  
DANNY

### DANNY

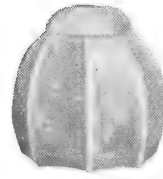
Cat. No.	Description.	Size inches.	Price each.
G 6699	Satin finish. Clear edge.	4½ × 5½ × 1½ hole	2/3

### NOUNTS

Cat. No.	Description.	Size inches	Price each.
G 6701	Satin finish.	4½ × 5½ × 1½ hole	4/3



G 6701  
NOUNTS



G 6715  
CANBERRA

### CANBERRA

Cat. No.	Description.	Size inches	Price each.
G 6715	Pearl finish.	4 × 4½ × 1½ hole	2/3



G 6721  
OUIDA



G 6723  
ISABELLA

### OUIDA

Cat. No.	Description.	Size inches	Price each.
G 6721	Satin finish.	4½ × 4 × 1½ hole	5/6

### ISABELLA

Cat. No.	Description.	Size inches	Price each.
G 6723	Satin finish.	3½ × 6 × 1½ hole	6/3

### TANJA

Cat. No.	Description.	Size inches	Price each.
G 6727	Satin finish, hand painted.	4 × 5½ × 1½ hole	5/6

*Pearl OSRAM Lamps  
are recommended for  
use with these Shades.*



G 6727  
TANJA

## GLASSWARE FOR ELECTRIC LIGHTING

### FANCY SHADES



**G 6729**  
**AULTLORE**



**G 6731**  
**GILLRAY**

#### AULTLORE

Cat. No.	Description.	Size inches	Price each.
G 6729	Satin etched and cut.	4 × 5½ × 1½ hole	5/6

#### GILLRAY

Cat. No.	Description.	Size inches	Price each.
G 6731	Satin etched.	5½ × 6 × 1½ hole	5/9



**G 6733**  
**KWILLOW**



**G 6735**  
**FELSTEAD**

#### KWILLOW

Cat. No.	Description.	Size inches	Price each.
G 6733	Satin etched.	4 × 5½ × 1½ hole	10/6

#### FELSTEAD

Cat. No.	Description.	Size inches	Price each.
G 6735	Satin cut.	4 × 5 × 1½ hole	8/6



**G 6739**  
**ROIGREY**



**G 6741**  
**ACKWORTH**

#### ROIGREY

Cat. No.	Description.	Size inches.	Price each.
G 6739	Satin cut.	3½ × 5 × 1½ hole	10/6

#### ACKWORTH

Cat. No.	Description.	Size inches.	Price each.
G 6741	Satin cut.	5½ × 5½ × 1½ hole	5/9



**G 6743**  
**BELTENE**

*Pearl OSRAM Lamps  
are recommended for  
use with these Shades.*

#### BELTENE

Cat. No.	Description.	Size inches.	Price each.
G 6743	Satin cut.	4 × 5½ × 1½ hole	7/3

**GLASSWARE  
FOR ELECTRIC LIGHTING  
FANCY SHADES**

**STELLA**

Cat. No.	Description.	Size inches.	Price each.
G 6761	Cut crystal.	4 × 5½ × 1½ hole	11/6



**G 6761  
STELLA**



**G 6763  
DUELLA**

**DUELLA**

Cat. No.	Description.	Size inches.	Price each.
G 6763	Cut crystal.	4½ × 5½ × 1½ hole	19/6

**CONSUELO**

Cat. No.	Description.	Size inches.	Price each.
G 6765	Cut crystal.	4½ × 6 × 1½ hole	19/6



**G 6765  
CONSUELO**



**G 6767  
FORTNAT**

**FORTNAT**

Cat. No.	Description.	Size inches.	Price each.
G 6767	Cut crystal.	5 × 5½ × 1½ hole	19/6

**FOUGESSE**

Cat. No.	Description.	Size inches.	Price each.
G 6769	Cut crystal.	4 × 5½ × 1½ hole	22/6



**G 6769  
FOUGESSE**



**G 6771  
CRAIGON**

**CRAIGON**

Cat. No.	Description.	Size inches.	Price each.
G 6771	Cut crystal.	4½ × 5½ × 1½ hole	19/6

*Pearl OSRAM Lamps are recommended for use with these shades.*

## GLASSWARE FOR ELECTRIC LIGHTING

### SATIN AND CUT GLASS GLOBES



**G 6961**  
BRILLIANT



**G 6963**  
PARAGON



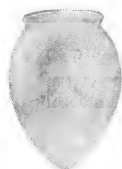
**G 6965**  
GRENDON



**G 6967**  
TESS



**G 6971**  
TARNE



**G 6973**  
HAZEL



**G 6975**  
FINDEN



**G 6981**  
BINCH



**G 6983**  
MIMMETTE

#### BRILLIANT

Cat. No.	Description.	Size inches.	Price each.
G 6961	Cut Crystal.	6 × 4 × 3 $\frac{1}{4}$ lip	9/6

#### PARAGON

Cat. No.	Description.	Size inches.	Price each.
G 6963	Cut crystal.	6 $\frac{1}{2}$ × 4 $\frac{1}{2}$ × 3 $\frac{1}{4}$ lip	22/6

#### GRENDON

Cat. No.	Description.	Size inches.	Price each.
G 6965	Cut crystal.	5 $\frac{1}{2}$ × 5 × 3 $\frac{1}{4}$ lip	25/-

#### TESS

Cat. No.	Description.	Size inches.	Price each.
G 6967	Cut crystal.	6 $\frac{3}{4}$ × 4 × 3 $\frac{1}{4}$ lip	39/-

#### TARNE

Cat. No.	Description.	Size inches.	Price each.
G 6971	Satin finish.	6 × 4 $\frac{3}{8}$ × 3 $\frac{1}{4}$ lip	6/6

#### HAZEL

Cat. No.	Description.	Size inches.	Price each.
G 6973	Satin finish, etched.	6 × 4 $\frac{1}{2}$ × 3 $\frac{1}{4}$ lip	5/6

#### FINDEN

Cat. No.	Description.	Size inches.	Price each.
G 6975	Satin cut.	6 × 4 $\frac{3}{8}$ × 3 $\frac{1}{4}$ lip	9/6

#### BINCH

Cat. No.	Description.	Size inches.	Price each.
G 6981	Cut crystal.	6 $\frac{1}{2}$ × 4 $\frac{1}{2}$ × 3 $\frac{1}{4}$ lip	30/-

#### MIMMETTE

Cat. No.	Description.	Size inches.	Price each.
G 6983	Satin cut.	7 × 4 $\frac{1}{2}$ × 3 $\frac{1}{4}$ lip	18/6

*Pearl OSRAM  
Lamps are recom-  
mended for use  
with these Shades*



## GLASSWARE FOR ELECTRIC LIGHTING

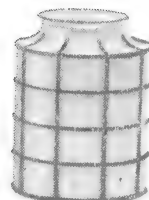
COLOURED AND DECORATED SHADES

### IVELL

Cat. No.	Description.	Size. inches.	Price each.
G 6801	White, with black decoration.	$4\frac{1}{2} \times 4\frac{1}{2} \times 2\frac{1}{4}$ lip	4/6



G 6801  
IVELL



G 6803  
WORTH

### WORTH

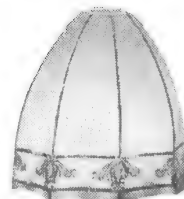
Cat. No.	Description.	Size. inches.	Price each.
G 6803	White, with black decoration.	$4\frac{1}{2} \times 5\frac{1}{4} \times 3\frac{1}{4}$ lip	5/3

### RINTINTIN

Cat. No.	Description.	Size. inches.	Price each.
G 6804	Satin finish.	$4\frac{1}{2} \times 5\frac{1}{2} \times 1\frac{1}{8}$ hole	1/9
G 6805	Champagne.	$4\frac{1}{2} \times 5\frac{1}{2} \times 1\frac{1}{8}$	1/9
G 6806	Light pink.	$4\frac{1}{2} \times 5\frac{1}{2} \times 1\frac{1}{8}$	1/9



G 6804/5/6  
RINTINTIN



G 6811/15  
EGMONT

### EGMONT

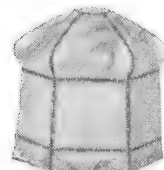
Cat. No.	Description.	Size. inches.	Price each.
G 6811	Orange.	$5\frac{1}{2} \times 5 \times 1\frac{1}{8}$ hole	3/9
G 6815	Rose.	$5\frac{1}{2} \times 5 \times 1\frac{1}{8}$	3/9

### DUGDALE

Cat. No.	Description.	Size. inches.	Price each.
G 6816	White opal.	$4 \times 6 \times 1\frac{1}{8}$ hole	2/3
G 6817	Champagne.	$4 \times 6 \times 1\frac{1}{8}$	2/9
G 6818	Light Pink.	$4 \times 6 \times 1\frac{1}{8}$	2/9
G 6819	Light green.	$4 \times 6 \times 1\frac{1}{8}$	2/9



G 6816/9  
DUGDALE



G 6821  
LOUMES

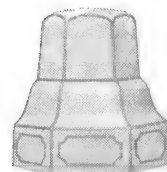
### LOUMES

Cat. No.	Description.	Size. inches.	Price each.
G 6821	Ivory.	$5\frac{1}{2} \times 5\frac{1}{2} \times 1\frac{1}{8}$ hole	4/3

### FROND

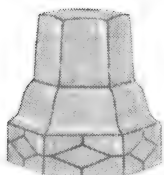
Cat. No.	Description.	Size. inches.	Price each.
G 6823	Pearl finish with brown decoration.	$5 \times 4\frac{1}{4} \times 1\frac{1}{8}$ hole	6/-

*Pearl OSRAM  
Lamps are recom-  
mended for use with  
these Shades.*

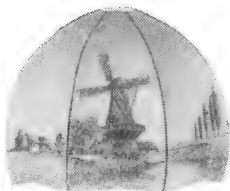


G 6823  
FROND

## GLASSWARE FOR ELECTRIC LIGHTING COLOURED AND DECORATED SHADES



**G 6825/7**  
**KIRN**



**G 6831**  
**JANIE**

### KIRN

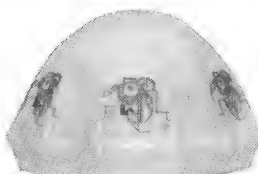
Cat. No.	Description.	Size inches.	Price each.
G 6825	Pearl with black decoration.	5 × 4½ × 1½ hole	6/-
G 6827	As G 6825 but with 2½" lip.		6/-

### JANIE

Cat. No.	Description.	Size inches.	Price each.
G 6831	Orange.	8 × 6½ × 1½ hole	8/6



**G 6833**  
**FINCHETTE**



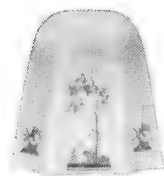
**G 6835**  
**CANLIN**

### FINCHETTE

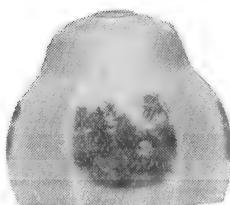
Cat. No.	Description.	Size inches.	Price each.
G 6833	Lemon.	5½ × 5 × 1½ hole	3/6

### CANLIN

Cat. No.	Description.	Size inches.	Price each.
G 6835	White with decoration in delicate colours.	9 × 5½ × 1½ hole	8/6



**G 6839**  
**FONTWELL**



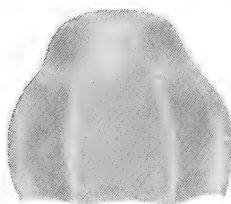
**G 6841**  
**TRANNOW**

### FONTWELL

Cat. No.	Description.	Size inches.	Price each.
G 6839	White with decoration in delicate colours.	5½ × 5½ × 1½ hole	6/3

### TRANNOW

Cat. No.	Description.	Size inches.	Price each.
G 6841	White with decoration in delicate colours.	8 × 6½ × 1½ hole	12/6



**G 6843/5**  
**SINDER**

*Pearl OSRAM  
Lamps are recom-  
mended for use  
with these Shades.*

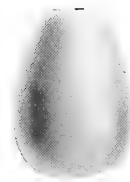
### SINDER

Cat. No.	Description.	Size inches.	Price each.
G 6843	Lemon.	8 × 6½ × 1½ hole	10/6
G 6845	do.	6½ × 5½ × 1½	5/6

## GLASSWARE FOR ELECTRIC LIGHTING

COLOURED AND DECORATED SHADES

Cat. No.	Description.	Size inches.	Price each.
G 6847	White.	4½ × 5 × 1½ hole	2/3
G 6848	Champagne.	4½ × 5 × 1½	3/0
G 6849	Pink.	4½ × 5 × 1½	3/0
G 6850	Green.	4½ × 5 × 1½	3/0



G 6847/50



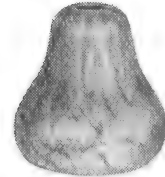
G 6851/3/5  
JESTER

### JESTER

Cat. No.	Description.	Size inches.	Price each.
G 6851	Amber.	4½ × 5½ × 1½ hole	4/9
G 6853	Pink.	4½ × 5½ × 1½	4/9
G 6855	Green.	4½ × 5½ × 1½	4/9



G 6859  
WESTCOURT



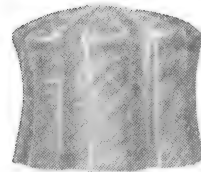
G 6863/5/7  
ONCHETE

### WESTCOURT

Cat. No.	Description.	Size inches.	Price each.
G 6859	Pink and white.	5½ × 5½ × 1½ hole	3/-

### ONCHETE

Cat. No.	Description.	Size inches.	Price each.
G 6863	Pink.	5½ × 5½ × 1½ hole	2/9
G 6865	Brown.	5½ × 5½ × 1½	2/9
G 6867	Gold.	5½ × 5½ × 1½	2/9



G 6871/3  
DRAGOMAN



G 6881/3  
CHRISSIE

### DRAGOMAN

Cat. No.	Description.	Size inches.	Price each.
G 6871	Orange and Brown.	4½ × 5½ × 1½ hole	3/6
G 6873	Pink.	4½ × 5½ × 1½	3/6
G 6875	Orange and Brown.	6½ × 5½ × 1½	5/6
G 6877	Pink.	6½ × 5½ × 1½	5/6

### CHRISSIE

Cat. No.	Description.	Size inches.	Price each.
G 6881	Green and Pink.	4½ × 5½ × 1½ hole	3/6
G 6883	Pink.	4½ × 5½ × 1½	3/6
G 6885	Green and Pink.	6½ × 6 × 1½	5/6
G 6887	Pink.	6½ × 6 × 1½	5/6

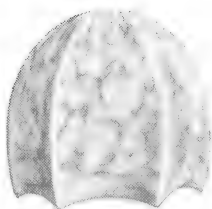
*Pearl OSRAM Lamps  
are recommended for  
use with these Shades.*

## GLASSWARE FOR ELECTRIC LIGHTING

COLOURED AND DECORATED SHADES



**G 6861**  
WISTERIA



**G 6869**  
BEAUFORT

### WISTERIA

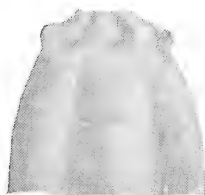
Cat. No.	Description.	Size inches.	Price each.
G 6861	Gold.	4½ × 5½ × 1½ hole	3/-

### BEAUFORT

Cat. No.	Description.	Size inches.	Price each.
G 6889	Gold & Pink.	6 × 5½ × 1½ hole	3/-

### SIMSEX

Cat. No.	Description.	Size inches.	Price each.
G 6891	Blue and Green.	6½ × 5½ × 1½ hole	5/6
G 6893	Orange and Brown.	6½ × 5½ × 1½	5/6



**G 6891/3**  
SIMSEX



**G 6901/7**  
HOODINE

### HOODINE

Cat. No.	Description.	Size inches.	Price each.
G 6901	Orange.	5½ × 6 × 1½ hole	3/6
G 6903	Lemon.	5½ × 6 × 1½	3/6
G 6905	Apricot.	5½ × 6 × 1½	3/6
G 6907	Blue.	5½ × 6 × 1½	3/6
Black decoration, as illustration.			



**G 6921/7**  
PANSAN



**G 6945**  
STATTERN

### PANSAN

Cat. No.	Description.	Size inches.	Price each.
G 6921	Orange.	5½ × 5½ × 1½ hole	3/6
G 6923	Lemon.	5½ × 5½ × 1½	3/6
G 6925	Apricot.	5½ × 5½ × 1½	3/6
G 6927	Blue.	5½ × 5½ × 1½	3/6
Black decoration, as illustration.			

### STATTERN

Cat. No.	Description.	Size inches.	Price each.
G 6945	Gold.	8½ × 10½ × 4 lip	27/-

### FLAMBEAU

Cat. No.	Description.	Size inches.	Price each.
G 6951	Satin finish.	3 × 5½ × 2½ lip	1/9
G 6953	Satin finish.	4½ × 7½ × 3½	2/6
G 6955	Satin finish.	6½ × 10 × 4	5/3
G 6957	Satin finish.	10½ × 16 × 7	27/-



**G 6951/7**  
FLAMBEAU

*PearlOSRAM Lamps  
are recommended for  
use with these shades.*

## GLASSWARE FOR ELECTRIC LIGHTING

WELL GLASSES, GLOBES, ETC.

### WELL GLASSES

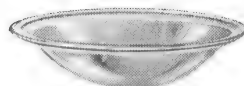
Catalogue No.	Description.	Dimensions.			Price per doz.	
		Depth.	Under Flange.	Over Flange.		
		ins.	ins.	ins.	s.	d.
G 6401	Light pattern.	6½	3	3½	10	6
G 6403	Heavy pattern.	6½	3	3½	21	0
G 6405	Light pattern.	7½	3	3½	12	0
G 6407	Flangeless.	6½	3½	—	12	0



G 6401/7

### BULKHEAD GLASSES

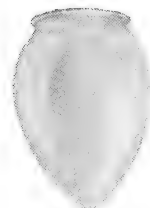
Catalogue No.	Description.	Dimensions.		Price per doz.	
		Depth.	Over Flange.		
		ins.	ins.	s.	d.
G 6411	Light pattern. Clear.	2	8½	24	0
G 6413	Light pattern. Frosted.	2	8½	39	0
G 6415	Heavy pattern. Clear.	2	8½	29	6
G 6417	Flangeless. Clear.	2	7½	25	6
G 6419	Flangeless. Frosted.	2	7½	45	0



G 6411/9

### GLOBES

Catalogue No.	Description.	Dimensions.			Price per doz.	
		Depth.	Diam.	Lip.		
		ins.	ins.	ins.	s.	d.
G 6421	Clear	6	4½	3½	27	0
G 6423	Frosted inside	6	4½	3½	32	6
G 6425	Opalescent	6	4½	3½	45	0
G 6427	Ruby	6	4½	3½	69	0



G 6421/7

Catalogue No.	Description.	Dimensions.			Price per doz.	
		Depth.	Diam.	Lip.		
		ins.	ins.	ins.	s.	d.
G 6429	Clear	6	5½	3½	27	0
G 6431	Frosted inside.	6	5½	3½	32	6
G 6433	Ruby.	6	5½	3½	72	0



G 6429/33

# S.E.C.

## CARDBOARD SHADES FOR ELECTRIC LIGHTING



G 6501/7

Cat. No.	Description.	Diam.	Depth.	Price per doz.	
		ins.	ins.	s.	d.
G 6501	Green & White Cardboard Shades, 1½ in. hole.	8	4	7	0
G 6503		10	5	9	0
G 6505		12	6	13	6
G 6507		15	7½	14	3

Cat. No.	Description.	Diam.	Depth.	Top opening	Price each.	
		ins.	ins.	ins.	s.	d.
G 6545	Green & White Cardboard Billiard Shade, with wire frame.	20	13½	3½	3	6

Gallery not included.

Gallery for above—

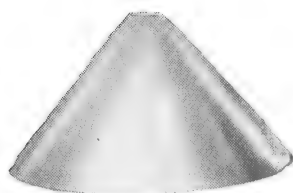
F 3771 3½ ins. X ½ in. brass thread 15/6 doz.

Cat. No.	Description.	Diam.	Depth.	Price per doz.	
		ins.	ins.	s.	d.
G 6531	Green & White Cardboard Shades. Brass bound edges. Ventilated brass top, 1½ in. hole.	8	4	18	0
G 6533		10	5	21	0
G 6535		12	9	26	6

## CONIC OPAL AND ENAMELLED IRON SHADES

(Foreign)

### White Opal Glass



G 6301/13

Cat. No.	Dimensions.	Price per doz.			Price per gross, if supplied in original cases. No extra charge for cases or packing. Breakages at consignee's risk.			
		ins.	£	s.	d.	£	s.	d.
G <b>6301</b>	15 × 4½ × 1½		2	7	6	25	10	0
G <b>6303</b>	12 × 3½ × 1½		19	3		10	10	0
G <b>6305</b>	10 × 3½ × 1½		11	0		6	0	0
G <b>6307</b>	9 × 3 × 1½		10	0		5	11	0
G <b>6309</b>	8 × 2½ × 1½		9	9		5	8	0
G <b>6313</b>	10 × 5 × 1½		12	9		6	18	0

### Green and White Opal Glass

G 6333	10 × 3½ × 1½	1	6	6	14	8	0
G 6335	9 × 3 × 1½	1	5	0	13	10	0
G 6337	10 × 5 × 1½	1	8	0	15	6	0

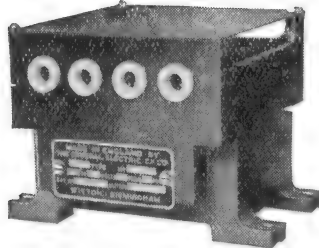
### Enamelled Iron—Blue and White

G 6359	10 × 5 × 1½	15	6	—
G 6361	10 × 3½ × 1½	10	6	—
G 6363	9 × 3 × 1½	9	9	—

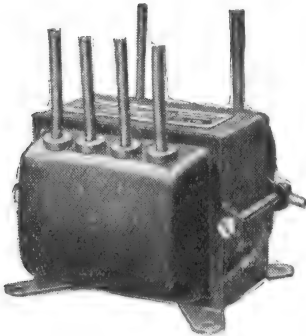
Prices of conic opal and enamelled iron shades in other sizes can be supplied on request.

## SMALL TRANSFORMERS

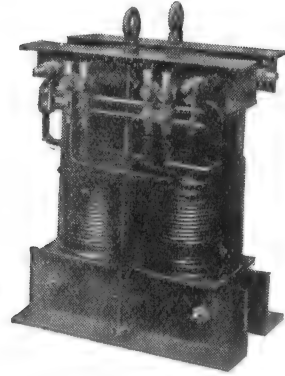
UP TO 4.5 kVA



Air-cooled single-phase transformer (smaller sizes) Types MID-R.



Air-cooled single-phase transformer, types W1 and W2.



Air-cooled single-phase transformer (larger sizes). Case removed.

G.E.C. transformers are made in single-phase or three-phase forms for all voltages. This list deals only with types up to 4.5 kVA with voltages up to 600 volts, 50/100 cycles. The cores of these transformers are built up of laminations of non-ageing silicon steel of the highest quality; eddy-current losses are prevented by coating one side of each lamination with an approved insulating material. Special attention is given both in design and manufacture to ensure a sound and rigid mechanical construction.

The cores are suitably clamped by means of channels or angle-irons so arranged as to ensure quiet working. The steel core of the transformer is insulated from the clamping iron by means of insulating blocks.

All wire used in the windings is cotton covered and insulated between layers. Liberal insulation is also provided between primary and secondary windings.

Before despatch from the Works all transformers are tested for ratio, iron and copper losses, magnetising current and polarity. Efficiencies are calculated from the measured iron and copper losses. The insulation between windings, core and frame is tested to withstand a pressure of twice the working voltage of the transformer plus 1,000 volts, with a minimum of 2,000 volts.

*For Prices and Dimensions of Air-cooled types see pages 696 and 697. For Oil-cooled types see pages 698-700.*

*NOTE.—Particulars of transformers for higher outputs and voltages will be forwarded on application.*

## SMALL TRANSFORMERS

UP TO 4.5 kVA

AIR-COOLED TYPES

**Cases.** Air-cooled (type A.N.) transformers are usually fitted in cast-iron self-ventilated cases with removable lid and lugs for wall mounting. The larger sizes have sheet steel covers and are suitable for floor mounting.

**Terminal Arrangements.** Protected terminals with porcelain bushes are supplied as standard. Conduit entries can be provided without extra charge. Transformers with numerous tappings have open type terminals arranged on a suitable terminal board.

### SINGLE-PHASE

Cat. No.	Type.	Output (50/100 cycles).	Minimum volts.	Price each.		Extra for Tappings. (each).	Weight (approx.).
				300 volts maximum.	600 volts maximum.		
		kVA.		£ s. d.	£ s. d.	s. d.	lb.
XT <b>5406</b>	W1	.05	4	1 6 0	—	3 0	7
XT <b>5408</b>	W2	.10	4	1 18 0	2 1 0*	3 0	9
XT <b>5410</b>	MID	.25	6	2 4 8	2 10 0*	5 8	14
XT <b>5412</b>	BB	.50	6	3 0 0	3 5 0	5 8	30
XT <b>5414</b>	LL	.75	12	3 18 0	4 5 0	7 0	40
XT <b>5416</b>	L	1.00	12	4 5 0	4 15 0	8 4	43
XT <b>5418</b>	M	1.50	25	5 4 0	5 15 0	8 4	53
XT <b>5420</b>	O	2.50	25	7 2 0	7 13 0	8 4	87
XT <b>5422</b>	P	3.00	40	8 2 0	8 15 0	9 8	92
XT <b>5424</b>	Q	3.75	50	9 8 0	10 4 0	9 8	102
XT <b>5426</b>	R	4.50	50	11 12 0	12 12 0	9 8	150

\* 440 Volts maximum : Type W2—0.075 kVA ; Type MID—0.15 kVA.

### THREE-PHASE

Cat. No.	Type.	Output (50/100 cycles).	Minimum volts.	Price each.		Extra for Tappings. (each).	Weight (approx.).
				300 volts maximum.	600 volts maximum.		
		kVA.		£ s. d.	£ s. d.	s. d.	lb.
XT <b>5560</b>	BB	.75	10	6 5 0	6 12 0	6 0	50
XT <b>5562</b>	LL	1.00	10	7 0 0	7 10 0	7 8	55
XT <b>5564</b>	L	1.50	12	7 12 0	8 5 0	7 8	72
XT <b>5566</b>	M	2.50	20	8 16 0	9 12 0	9 0	102
XT <b>5568</b>	O	4.00	20	11 16 0	12 14 0	9 0	110
XT <b>5570</b>	P	4.50	25	12 12 0	13 10 0	9 0	115

For dimensions see next page.

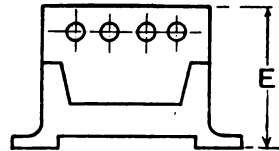
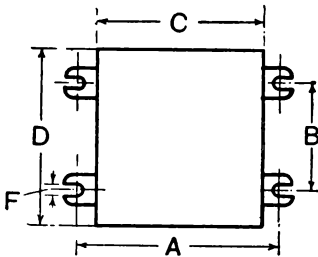
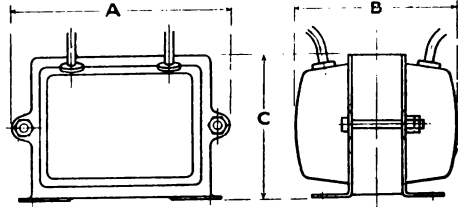


# SMALL TRANSFORMERS

UP TO 4.5 kVA  
AIR-COOLED TYPES

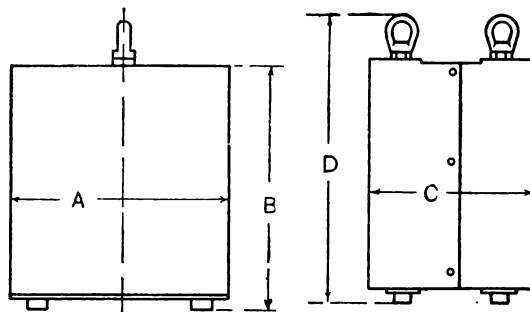
## DIMENSIONS

Type (single-phase).	A	B	C
W1	ins. $4\frac{1}{8}$	ins. $3\frac{1}{8}$	ins. 3
W2	$4\frac{1}{8}$	4	3



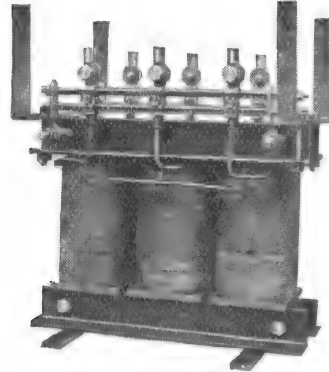
Type.		A	B	C	D	E	F
Single-phase.	Three-phase.						
MID	—	ins. $7\frac{1}{8}$	ins. $3\frac{1}{8}$	ins. $6\frac{1}{8}$	ins. $6\frac{1}{8}$	ins. $5\frac{1}{8}$	ins. $\frac{7}{8}$
BB	—	$8\frac{1}{8}$	$3\frac{1}{4}$	$7\frac{1}{4}$	8	6	$\frac{7}{8}$
LL	—	$9\frac{5}{8}$	$4\frac{3}{8}$	$8\frac{1}{8}$	$8\frac{7}{8}$	$6\frac{7}{8}$	$\frac{7}{8}$
L	—	$9\frac{5}{8}$	$4\frac{1}{8}$	$8\frac{1}{8}$	$8\frac{7}{8}$	$6\frac{7}{8}$	$\frac{7}{8}$
M	BB	10	$5\frac{1}{8}$	$8\frac{1}{8}$	10	$7\frac{1}{8}$	$\frac{7}{8}$
O.P or Q	L or LL	12	7	$10\frac{1}{8}$	$12\frac{1}{4}$	$8\frac{1}{8}$	$\frac{1}{2}$
R	M	—	—	12	$14\frac{1}{4}$	$9\frac{1}{8}$	—

Type (three-phase.)	A	B	C	D
O.P	ins. $14\frac{1}{2}$	ins. 13	ins. 9	ins. $15\frac{1}{2}$



**SMALL TRANSFORMERS****UP TO 4.5 kVA****OIL-COOLED TYPES**

Oil-cooled single-phase transformer  
(smaller sizes).



Oil-cooled three-phase transformer  
(larger sizes). Case removed.

Oil immersed naturally cooled (type O.N.) transformers are designed to comply with British Standard Specification No. 171 (1927), the temperature rise as measured by thermometer in the hottest part of the oil not exceeding 50° C. after a continuous full load run. They are suitable for indoor or outdoor use.

**Tanks.** The smaller sizes are provided with sheet steel tanks and are suitable for mounting on either walls or posts; special arrangements are provided to enable the cables to be sealed by means of bitumen in sealing chambers, which are integral with the tanks.

The larger tanks are made of best quality sheet steel of ample gauge, electrically welded wherever possible. The lids are secured to the curb by means of bolts with a dust-proof gasket between.

Both types of tanks can be drilled to accommodate conduit tubing or glands. Cable boxes can only be fitted to 4.5 kVA three-phase transformers.

**Terminal Arrangements.** The terminals are arranged inside the tank, and porcelain bushes are provided for leading in the cables. Weatherproof packing glands can be supplied at an extra price.

*For Prices and Dimensions see pages 699 and 700.*

*NOTE : Particulars of transformers for higher outputs and voltages will be given on application.*

## SMALL TRANSFORMERS

UP TO 4.5 kVA

OIL-COOLED TYPES

### SINGLE-PHASE

Cat. No.	Type.	Output (50/100 cycles).	Minimum volts.	Price each (excluding oil).						Oil required.	Weight (approx.)
				300 volts maximum.			600 volts maximum.				
		kVA.		£	s.	d.	£	s.	d.	Galls.	lb.
XT 5370	ON	.25	6	2	17	0	3	2	0*	1½	24
XT 5372	ON1	.50	6	3	12	0	3	18	0	1½	54
XT 5374	ON1	.75	12	5	0	0	5	8	0	1½	60
XT 5376	ON1	1.00	12	5	4	0	5	12	0	1½	62
XT 5378	ON2	1.50	25	6	17	0	7	8	0	3	80
XT 5380	ON2	2.50	25	10	8	0	11	0	0	3	102
XT 5382	ON2	3.00	40	11	6	0	12	0	0	3	105
XT 5384	ON2	3.75	50	12	14	0	13	10	0	3	112
XT 5386	ON3	4.50	50	16	0	0	17	0	0	5	155

\* 440 volts maximum (-15 kVA).

### THREE-PHASE

Cat. No.	Type.	Output (50/100 cycles).	Minimum volts.	Price each (excluding oil).						Oil required	Weight (approx.).
				300 volts maximum.			600 volts maximum.				
		kVA.		£	s.	d.	£	s.	d.	Galls.	lb.
XT <b>5520</b>	ON1	.75	10	8	4	0	8	12	0	1	65
XT <b>5522</b>	ON2	1.00	10	9	7	0	9	18	0	1	65
XT <b>5524</b>	ON2	1.50	12	10	5	0	11	2	0	2	85
XT <b>5526</b>	ON2	2.50	20	11	10	0	12	5	0	2	95
XT <b>5528</b>	ON3A	4.00	20	17	0	0	17	18	0	7	185
XT <b>5530</b>	ON3A	4.50	25	18	4	0	19	8	0	7	190

### EXTRAS

Cat. No.	Extra for Tappings (each).		Extra for Outdoor type.	
	s.	d.	s.	d.
XT 5370	5	8	3	6
XT 5372	5	8	7	0
XT 5374	7	0	10	0
XT 5376	8	4	10	0
XT 5378	8	4	10	0
XT 5380	8	4	15	0
XT 5382	9	8	15	0
XT 5384	9	8	17	0
XT 5386	9	8	17	0

Cat. No.	Extra for Tappings (each).		Extra for Outdoor type.	
	s.	d.	s.	d.
XT 5520	6	0	7	0
XT 5522	7	8	7	0
XT 5524	7	8	10	0
XT 5526	9	0	10	0
XT 5528	9	0	14	0
XT 5530	9	0	14	0

**EXTRA for weatherproof packing glands, up to 1 kVA, 9s. 4d. each ;  
1.5 to 4.5 kVA, 14s. 0d. each.**

*For dimensions see next page.*

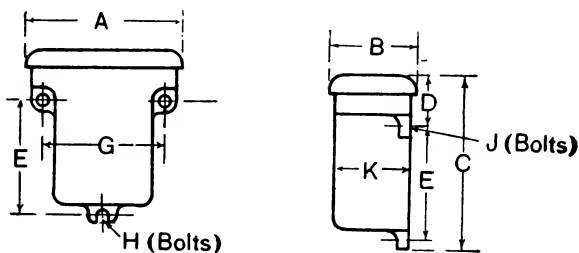
# S.E.C.

## SMALL TRANSFORMERS

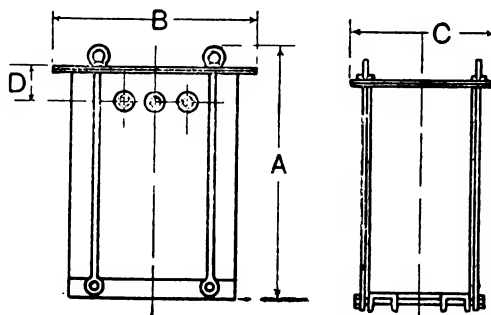
UP TO 4.5 kVA

OIL-COOLED TYPES

### DIMENSIONS



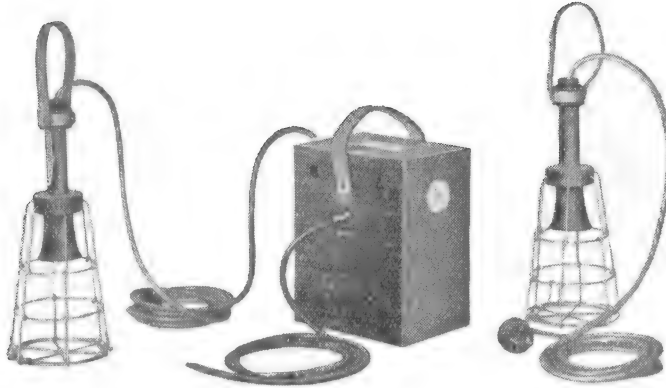
Type.	A	B	C	D	E	G	H	J	K
ON	ins. 12	ins. $5\frac{1}{2}$	ins. 11	ins. 4	ins. $6\frac{1}{8}$	ins. $9\frac{1}{4}$	ins. $\frac{7}{16}$	ins. $\frac{3}{8}$	ins. $4\frac{1}{2}$
ON1	16	8	$15\frac{1}{2}$	$5\frac{1}{16}$	$9\frac{1}{2}$	$11\frac{1}{2}$	$\frac{5}{8}$	$\frac{1}{2}$	$6\frac{1}{2}$
ON2	17	9	19	$5\frac{1}{4}$	$12\frac{5}{8}$	$13\frac{1}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$7\frac{1}{2}$
ON3	$20\frac{1}{2}$	10	$22\frac{1}{2}$	$5\frac{7}{8}$	$15\frac{1}{2}$	$16\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$8\frac{1}{2}$



Type.	A	B	C	D (approx.)
ON3a	ins. $24\frac{1}{2}$	ins. $21\frac{1}{2}$	ins. $13\frac{1}{2}$	ins. 3

## SMALL TRANSFORMERS

### PORTABLE ALL-INSULATED TYPE



**XT 5600**

**General.** G.E.C. all-insulated portable transformers (approved by the Home Office) have been designed with a view to overcoming the danger of shock when using hand-lamps on alternating current circuits in damp or exposed situations, factories, workshops, garages, etc. The unit consists of a step-down transformer with two hand-lamps and the necessary sockets and plugs.

**Transformer.** The transformer is double wound for a primary pressure of 230 volts, 50 cycles single phase; the secondary is wound for 12.5 and 25 volts with an output of 100 volt-amperes. It is contained in a metal box filled with bitumen compound to exclude moisture.

**Case.** The case containing the transformer is of stout oiled teak provided with a solid lid held by four screws and with a leather carrying handle. Ventilating holes are arranged near the top. Two special 2-pin sockets are fixed at opposite sides of the case.

**Connections.** The transformer may be connected to any plug and socket by means of the length (4 ft. 6 in.) of twin tough-rubber-sheathed flexible, provided. The low voltage is taken from the sockets mentioned above by means of plugs with flat pins. These plugs are not interchangeable with those generally in use in this country, so that there is no danger of a 25-volt lamp being accidentally connected to a main high voltage circuit. Each hand-lamp is supplied with a 3-yard length of twin tough-rubber-sheathed flexible; other lengths can be supplied to order.

**Hand-lamps.** These are the G.E.C. standard Home Office pattern, Cat. No. F5047, (see page 606), with handles and skirted holders of bakelite. The wire guards are entirely isolated from the current carrying parts.

Cat. No.	Description.	Price each.
XT 5600	All-Insulated Portable Transformer, complete with two hand-lamps and flexibles, but without lamps .. .. .	£ s. d. 5 15 0
XT 5602	All-Insulated Portable Transformer, complete with plugs and sockets, but without handlamp and flexible .. .. .	4 9 0

## MEASURING INSTRUMENTS

An extensive range of measuring instruments is made by the G.E.C., the Company's products including some of the most delicate types of instruments used in the electrical industry. G.E.C. instruments are used in large numbers by the Post Office and other Government departments, which insist on guaranteed standards of accuracy as certified by the National Physical Laboratory and their own testing staff.

This accuracy in standard products is due to the thoroughness and care employed in every stage of manufacture.

**STANDARD PATTERNS.** The instruments listed in this Catalogue are made in (a) moving iron repulsion type for direct or alternating current and (b) moving coil type for direct current only. For other types see footnote.

The movements are housed in cases to suit the particular requirements. Switchboard movements are housed in round, edgewise, or sector shaped cast iron cases, with stove enamelled finish, and also in Bakelite cases and oval stamped iron cases, the standard finish of which is ebony. Other finishes can be supplied if required. Back connections consisting of heavy studs of standard design are provided for these switchboard pattern instruments.

Portable pattern instruments have a similar movement to the switchboard pattern, but the cases are of polished wood or cast iron stove enamelled with nickel relief; in some types aluminium or pressed steel cases are used.

### Movements.

- (1) *Moving iron type.* The movement operates on the electro-magnetic (moving iron) principle of the repulsion type which is universally acknowledged to be the most satisfactory for a.c. measurements. Two special stalloy elements are magnetized by the current under measurement passing through a coil of wire round them. The moving element consists of a rigid shaft carrying the moving stalloy element, an aluminium vane, balance weights, pointer, and controlling spring (in the case of spring-controlled instruments). The vane swings in an air damping chamber with sufficiently small clearance to absorb the rotating energy and render the movement dead beat; the damping chamber consists of a die-casting of specially selected metal.
- (2) *Moving coil type.* The magnets are of the standard horseshoe pattern of a length and cross section giving maximum strength, efficiency and permanency. They are forged from the best magnet steel, ground to ensure a good fit on the pole-pieces and finally magnetized and aged; the large amount of steel used produces a high deflecting torque ensuring permanent accuracy of calibration. The moving armature consists of an aluminium former wound with layers of silk covered copper wire; the usual pivots, balance weights, and control springs are attached to this former.

### Pivots and bearings.

Specially shaped and hardened pivots of carbon steel support the moving system. The bearings are specially selected sapphires set in brass bearing screws with a very fine thread which allows delicate adjustment in the final assembly. In all movements special attention is given to the weight, which is a most important factor in the life of the pivots and jewels.

### Pointers.

The pointers are of aluminium and in the case of switchboard instruments terminate in a light aluminium spade. The smaller instruments and instruments fitted with a mirror inset are provided with a knife edge pointer.

### Tropical finish.

Dials are made of brass, white enamelled, instead of the standard Bristol board, the coils are specially impregnated, and a rubber ring is provided between cover and base.

*NOTE.—In addition to the measuring instruments illustrated and described in the succeeding pages, many other types are produced by the G.E.C. (see list on page 719), while a complete range of miniature instruments of from 2½ to 3½ ins. diameter is available for A.C. and D.C. circuits. Particulars on application.*

## MEASURING INSTRUMENTS

### MOVING IRON TYPE

**For Direct and Alternating Current not exceeding 300 volts**

**Dial.**— $3\frac{1}{4}$  ins.

**Movement.**—Moving iron, extremely light, spring controlled, dead beat.

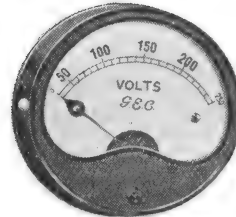
**Case.**—Round Pattern, moulded Bakelite (unaffected by temperature or atmospheric changes), black finish. Rectangular pattern, stamped metal, dull black finish.

**Calibration.**—Calibrated by direct comparison with certified standards.

**Dial.**—White Bristol board cemented on to metal dial plate, scale nearly evenly divided.

**Terminals.**—Back connections.

**Accuracy.**—1st Grade (B.S.S. No. 89)



**M 1107**



**M 1128**

### VOLTMETERS

Range.	Round Pattern			Rectangular Pattern		
	Cat. No.	Price each.		Cat. No.	Price each.	
Volts.		£	s. d.		£	s. d.
1—6	M 1100	1	13 0	M 1120	1	13 0
2—10	M 1101			M 1121		
4—20	M 1102			M 1122		
8—40	M 1103			M 1123		
15—80	M 1104	1	15 0	M 1124	1	15 0
20—120	M 1105	1	17 0	M 1125	1	17 0
30—160	M 1106	1	18 6	M 1126	1	18 6
50—250	M 1107	2	3 0	M 1127	2	3 0
50—300	M 1108	2	6 0	M 1128	2	6 0

### AMMETERS

Range.	Round Pattern			Rectangular Pattern		
	Cat. No.	Price each.		Cat. No.	Price each.	
Amps.		£	s. d.		£	s. d.
.1—1	M 1140	1	13 0	M 1170	1	13 0
.4—5	M 1142			M 1172		
1—10	M 1144			M 1174		
2—20	M 1146			M 1176		
3—30	M 1148	1	15 0	M 1178	1	15 0
4—50	M 1150			M 1180		
8—80	M 1151			M 1181		

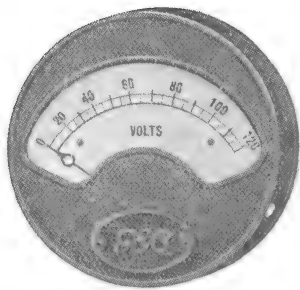
**EXTRA.**—Special Range, 4/3

*NOTE.*—When required for Alternating Current please state Frequency.

## MEASURING INSTRUMENTS

### MOVING IRON TYPE

**For Direct and Alternating Current not exceeding 600 volts**



M 2408 Protected Dial.

**Diameters of Dial.**—4 in., 6 in., 8 in.

**Lengths of Scale.**—3½ in., 5½ in., 7½ in.

**Movement.**—Moving iron, extremely light, gravity controlled, damped with air dash pot, dead beat. (For spring control see below.)

**Case.**—Round pattern cast iron, finished in bright black stoved enamel with dull black front and bright black relief.

**Shielding.**—Protected against ordinary stray magnetic fields.

**Calibration.**—Calibrated by direct comparison with certified standards.

**Dial.**—White Bristol board cemented on to metal dial plate. Scale nearly evenly divided.

**Terminals.**—Back connections.

**Accuracy.**—1st Grade (B.S.S. No. 89).

### VOLTMETERS

Range.	4 in. Dial.			6 in. Dial.			8 in. Dial.					
	Cat. No.	Price each.			Cat. No.	Price each.			Cat. No.	Price each.		
Volts.		£	s.	d.		£	s.	d.		£	s.	d.
1—6	M 2381	2	6	9	M 2399	2	11	6	M 2429	3	1	0
2—10	M 2382				M 2400				M 2430			
4—20	M 2383				M 2402				M 2432			
8—40	M 2384				M 2404				M 2434			
15—80	M 2385	2	7	0	M 2406	2	11	9	M 2436	3	1	3
20—120	M 2386	2	8	3	M 2408	2	12	9	M 2438	3	2	3
30—160	M 2387	2	10	3	M 2410	2	14	9	M 2440	3	4	3
50—250	—	—	—	—	M 2412	2	18	9	M 2442	3	8	3
50—300	—	—	—	—	M 2414	3	2	6	M 2444	3	12	0
100—500	—	—	—	—	M 2416	3	13	3	M 2446	4	2	9
100—600	—	—	—	—	M 2418	3	15	6	M 2448	4	5	0

Voltmeters are self-contained up to 300 volts ; above this external resistances are supplied.

### EXTRAS

#### Front Connections :—

	s.	d.
4 in. dial Voltmeters ..	No extra	
6 in. dial Voltmeters ..	7	6
8 in. dial Voltmeters ..	8	6

#### All Glass Front (Open Dial) :—

	s.	d.
6 in. and 8 in. dial Voltmeters	3	3
Special Range	Price of next higher range	
H.P. Scale *	Prices on application	
Spring Control ..	6	0

\* When ordering H.P. Scale particulars should be given showing the relation between H.P. and Amps.

*NOTE.—When required for Alternating Current please state Frequency.*



## MEASURING INSTRUMENTS

### MOVING IRON TYPE

**For Direct and Alternating Current not exceeding 600 volts**

**Diameters of Dial.**—4 in., 6 in., 8 in.

**Lengths of Scale.**—3½ in., 5½ in., 7½ in.

**Movement.**—Moving iron, extremely light, gravity controlled, damped with air dash pot, dead beat. (For spring control see below.)

**Case.**—Round pattern, cast iron, finished in bright black stoved enamel with dull black front and bright black relief (similar to illustration on previous page).

**Shielding.**—Protected against ordinary stray magnetic fields.

**Calibration.**—Calibrated by direct comparison with certified standards.

**Dial.**—White Bristol board cemented on to metal dial plate. Scale nearly evenly divided.

**Terminals.**—Back connections.

**Accuracy.**—1st Grade (B.S.S. No. 89).

### AMMETERS

Range.	4 in. Dial.				6 in. Dial.				8 in. Dial.			
	Cat. No.	Price each.			Cat. No.	Price each.			Cat. No.	Price each.		
Amps.		£	s.	d.		£	s.	d.		£	s.	d.
.1—1	M 3253	2	2	0	M 3297	2	6	9	M 3498	2	16	3
.4—5	M 3254				M 3299				M 3499			
1—10	M 3255				M 3300				M 3500			
2—20	M 3256				M 3301				M 3501			
3—30	M 3257				M 3302				M 3502			
4—50	M 3258	2	4	6	M 3303	2	9	3	M 3503	2	18	9
8—80	M 3260	2	5	0	M 3304	2	9	6	M 3504	2	19	0
10—100	M 3261	2	5	9	M 3305	2	10	6	M 3505	3	0	0
10—150	—	—	—	—	M 3306	2	11	9	M 3506	3	1	3
20—200	—	—	—	—	M 3307	2	14	3	M 3507	3	3	9
20—250	—	—	—	—	M 3308	3	0	0	M 3508	3	9	6
30—300	—	—	—	—	M 3309	3	6	0	M 3509	3	15	0
40—400	—	—	—	—	M 3310	3	10	6	M 3510	4	0	0
40—500	—	—	—	—	M 3311	3	19	3	M 3511	4	8	9
60—600	—	—	—	—	M 3312	4	6	6	M 3512	4	16	0

### EXTRAS

#### Front Connections :—

4 in. dial Ammeters No extra

6 in. dial Ammeters up to 100 amps. **7/6**

“ “ 250 “ **12/-**

“ “ 600 “ **14/3**

8 in. dial Ammeters up to 100 amps. **8/6**

“ “ 250 “ **17/-**

“ “ 600 “ **20/6**

#### All Glass Front (Open Dial) :—

6 in. and 8 in. dial Ammeters .. ..

.. .. **3/3**

Special Range .. ..

Price of next higher range

Horsepower Scale \* .. ..

Prices on application

Horsepower and Ampere Scale \* .. ..

Prices on application

Spring Control .. ..

.. .. **6/-**

\*When ordering Horsepower Scales particulars should be given showing the relation between Horsepower and Amps.

*NOTE.*—When required for Alternating Current please state Frequency.

## MEASURING INSTRUMENTS

### MOVING IRON PEDESTAL TYPE

For Direct and Alternating Current not exceeding 600 volts

**Diameter of Dial.**— $3\frac{1}{4}$ -in.

**Length of Scale.**— $2\frac{1}{4}$ -in.

**Movement.**—Moving iron, extremely light, spring controlled, dead beat.

**Case.**—Controller type, cast iron, finished in bright black stoved enamel with dull black front and bright black relief.

**Shielding.**—Protected against ordinary stray magnetic fields.

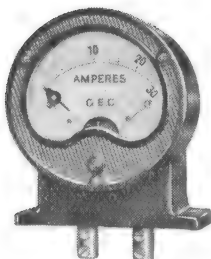
**Calibration.**—Calibrated by direct comparison with certified standards.

**Dial.**—White Bristol board cemented on to metal dial plate. Scale nearly evenly divided.

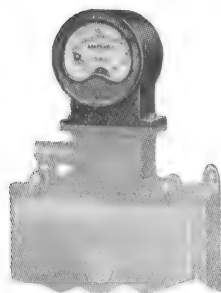
**Terminals.**—Connections in base.

**Adaptor Base.**—Supplied at extra price (given below) to facilitate connecting up and complete the continuity of conduit systems.

**Accuracy.**—1st Grade (B.S.S. No. 89).



M 5191



M 5191 with Adaptor (mounted on switch-gear case).

### VOLTMETERS

Range.	Cat. No.	Weight (approx.).		Price each.		
Volts.		lb.	kilos.	£	s.	d.
2-10	M 5179	3½	1.7	1	19	0
8-40	M 5180			1	19	0
15-80	M 5181			2	1	0
20-120	M 5182			2	4	0
30-160	M 5183			2	5	0
50-250	M 5184			2	9	0
50-300	M 5185	4½	2.15	2	9	0
100-500	M 5186			2	12	0
100-600	M 5187			3	0	0

Voltmeters are self-contained up to 300 volts ; above this external resistances are supplied.

### AMMETERS

Range.	Cat. No.	Weight (approx.).		Price each.		
Amps.		lb.	kilos.	£	s.	d.
1-10	M 5189	3½	1.59	1	19	0
2-20	M 5190			1	19	0
3-30	M 5191			1	19	0
4-50	M 5192			2	1	0
8-80	M 5193			2	1	0
10-100	M 5194			2	1	6
15-150	M 5195	—	—	—	—	—
20-200	M 5196	—	—	—	—	—
25-250	M 5197	—	—	—	—	—
30-300	M 5198	—	—	—	—	—

### EXTRAS

Adaptor Base	.. .. .	s. d. 5 9	Horsepower Scale*	.. .. .	s. d. 5 3
Splash Proof	.. .. .	Prices on application	Horsepower and Ampere Scale*	.. .. .	8 6
Special Range	Price of next higher range				

\*When ordering Horsepower Scales, particulars should be given showing the relation between Horsepower and Amps.

**NOTE.**—When required for Alternating Current please state Frequency.

Moving iron pedestal type measuring instruments can be supplied with 6-in. dials, prices on application.

## MEASURING INSTRUMENTS

### MOVING COIL TYPE

**For Direct Current not exceeding 600 volts**

**Dial.**— $3\frac{1}{4}$ -in.

**Movement.**—Moving coil type, spring controlled, dead beat.

**Case.**—Round Pattern, moulded Bakelite (unaffected by temperature or atmospheric changes), dull black finish. Rectangular Pattern, stamped metal, finished in dull black stoved enamel.

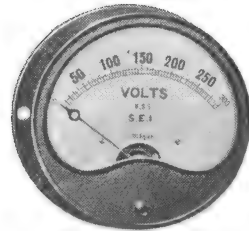
**Calibration.**—By direct comparison with certified standards.

**Dial.**—White Bristol board, cemented on to metal dial plate. Scale evenly divided.

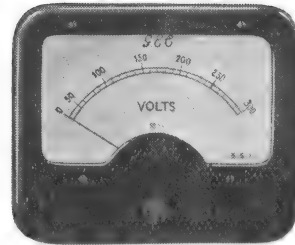
**Terminals.**—Back connections.

**Shunts.**—Giving 75 mv. drop with full scale deflection.

**Accuracy.**—1st Grade (B.S.S. No. 89).



**M 1207 Round Pattern**



**M 1214 Rectangular Pattern.**

### VOLTMETERS

Range Zero to :	Round Pattern.				Rectangular Pattern.			
	Cat. No.	Price each.			Cat. No.	Price each.		
Volts.		£	s.	d.		£	s.	d.
10	M 1200	2	10	0	M 1210	2	10	0
20	M 1201	2	12	0	M 1211	2	12	0
40	M 1202	2	12	0	M 1212	2	12	0
80	M 1203	2	13	0	M 1213	2	13	0
120	M 1204	2	15	0	M 1214	2	15	0
160	M 1205	2	17	0	M 1215	2	17	0
250	M 1206	3	0	0	M 1216	3	0	0
300	M 1207	3	1	0	M 1217	3	1	0
500	M 1208	3	12	0	M 1218	3	12	0
600	M 1209	3	18	0	M 1219	3	18	0

Voltmeters are self-contained up to 300 volts ; above this external resistances are supplied.

### AMMETERS

Range Zero to :	Round Pattern.				Rectangular Pattern.			
	Cat. No.	Price each.			Cat. No.	Price each.		
Amps.		£	s.	d.		£	s.	d.
10	M 1240	2	12	0	M 1260	2	12	0
20	M 1242	2	19	0	M 1262	2	19	0
50	M 1246	2	19	0	M 1266	2	19	0
100	M 1248	3	0	0	M 1268	3	0	0
150	M 1250	3	1	0	M 1270	3	1	0
200	M 1251	3	2	0	M 1271	3	2	0
250	M 1252	3	5	0	M 1272	3	5	0
300	M 1253	3	6	0	M 1273	3	6	0
400	M 1254	3	13	0	M 1274	3	13	0
500	M 1255	3	15	0	M 1275	3	15	0
600	M 1256	4	5	0	M 1276	4	5	0

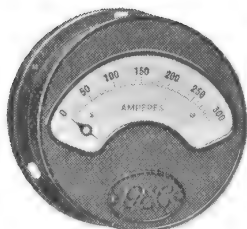
**EXTRA.**—Special Range, 4/3

Ammeters are self-contained up to 10 amps. ; above this external shunts and leads are supplied.

## MEASURING INSTRUMENTS

### MOVING COIL TYPE

For Direct Current not exceeding 1,000 volts



M 2762

Protected Dial.

**Diameter of Dial.**—4 in., 6 in., 8 in.

**Length of Scale.**—3½ in., 5½ in., 7½ in.

**Movement.**—Moving coil type, spring controlled, dead beat.

**Case.**—Cast iron, finished in bright black stove enamel, with dull black front and bright black relief.

**Calibration.**—Calibrated by direct comparison with certified standards.

**Scale.**—White Bristol board cemented on to metal dial plate. Scale evenly divided.

**Shunts.**—External, giving 75 mv. drop with full scale deflection.

**Accuracy.**—1st Grade (B.S.S. No. 89).

### VOLTMETERS

Range.	4 in. Dial.			6 in. Dial.			8 in. Dial.					
	Cat. No.	Price each.			Cat. No.	Price each.			Cat. No.	Price each.		
Volts.		£	s.	d.		£	s.	d.		£	s.	d.
0—10	M 2612	3	17	6	M 2630	4	2	6	M 2670	4	13	3
0—20	M 2613	3	19	0	M 2632	4	4	3	M 2672	4	14	9
0—40	M 2614	3	19	0	M 2634	4	4	3	M 2674	4	14	9
0—80	M 2615	4	0	3	M 2636	4	5	3	M 2676	4	16	0
0—120	M 2616	4	1	3	M 2638	4	6	6	M 2678	4	17	0
0—160	M 2617	4	3	9	M 2640	4	9	0	M 2680	4	19	6
0—250	M 2618	4	6	3	M 2642	4	11	3	M 2682	5	2	0
0—300	M 2619	4	8	0	M 2644	4	13	0	M 2684	5	3	9
0—500	M 2621	4	19	6	M 2646	5	4	6	M 2686	5	15	3
0—600	M 2622	5	6	0	M 2648	5	11	0	M 2688	6	1	9
0—1000	—	—	—	—	M 2650	6	19	3	M 2690	7	10	0
60—130	—	—	—	—	M 2652	4	9	0	M 2692	4	19	6
130—260	—	—	—	—	M 2654	4	11	3	M 2694	5	2	0
250—500	—	—	—	—	M 2656	5	4	6	M 2696	5	15	3
330—650	—	—	—	—	M 2658	5	17	4	M 2698	6	8	0

4 in. voltmeters are self-contained up to 300 volts ; 6 and 8 in. voltmeters are self-contained up to 600 volts. Above these voltages external resistances are supplied.

### AMMETERS

Range Zero to :	4 in. Dial.			6 in. Dial.			8 in. Dial.					
	Cat. No.	Price each.			Cat. No.	Price each.			Cat. No.	Price each.		
Amps.		£	s.	d.		£	s.	d.		£	s.	d.
10	M 2740	3	19	6	M 2750	4	4	9	M 2800	4	15	3
20	M 2741	3	19	6	M 2752	4	4	9	M 2802	4	15	3
50	M 2742	4	0	9	M 2754	4	6	0	M 2804	4	16	6
100	M 2743	4	3	9	M 2756	4	9	0	M 2806	4	19	6
150	M 2744	4	6	9	M 2758	4	12	0	M 2808	5	2	6
200	M 2745	4	7	3	M 2760	4	12	3	M 2810	5	2	9
300	M 2746	4	11	0	M 2762	4	16	0	M 2812	5	6	9
400	M 2747	4	16	9	M 2764	5	1	9	M 2814	5	12	3
500	M 2748	4	19	6	M 2766	5	4	6	M 2816	5	15	3
600	M 2749	5	10	3	M 2768	5	15	6	M 2818	6	6	0
700	—	—	—	—	M 2770	6	0	3	M 2820	6	10	9
800	—	—	—	—	M 2772	6	3	9	M 2822	6	14	3
1000	—	—	—	—	M 2774	6	14	6	M 2824	7	5	3
1500	—	—	—	—	M 2776	7	19	9	M 2826	8	11	3
2000	—	—	—	—	M 2778	9	8	6	M 2828	9	19	0
2500	—	—	—	—	M 2780	10	0	6	M 2830	10	11	0

Ammeters are self-contained up to 10 amps ; above this external shunts and leads are supplied.

### EXTRAS

**All Glass Front (Open Dial) :—**

**Front Connections :—**

6 in. and 8 in. dial Voltmeters and  
Ammeters

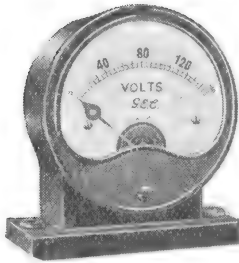
3 3

All sizes, Voltmeters and Ammeters 7 9  
Special Range Price of next higher range

## MEASURING INSTRUMENTS

### MOVING COIL PEDESTAL TYPE

For Direct Current not exceeding 600 volts



M 5605

**Diameter of Dial.**— $3\frac{1}{4}$ -in.  
**Length of Scale.**— $2\frac{1}{8}$ -in.  
**Movement.**—Moving coil type, spring controlled, dead beat.

**Case.**—Controller type, cast iron, finished in bright black stoved enamel with dull black front and bright black relief.

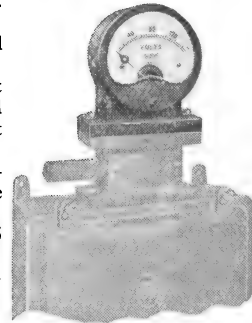
**Dial.**—White Bristol board cemented on to metal dial plate. Scale evenly divided.

**Shunts.**—External, giving 75 mv. drop with full scale deflection.

**Calibration.**—By direct comparison with certified standards.

**Adaptor Base.**—To facilitate connecting up and complete continuity of conduit systems.

**Accuracy.**—1st Grade (B.S.S. No. 89).



M 5605 With adaptor base, mounted on switchgear case.

### VOLTMETERS

Range Zero to : Volts.	Cat. No.	Weight (approx.).		Price each.		
		lb.	kilos.	£	s.	d.
10	M 5600	4½	2.04	3	10	0
20	M 5601			3	12	0
40	M 5602			3	12	0
80	M 5603			3	14	0
120	M 5604			3	16	0
160	M 5605			3	19	0
250	M 5606	5½	2.49	4	2	0
300	M 5607			4	4	0
500	M 5608			4	17	0
600	M 5609			5	5	0

Voltmeters are self-contained up to 300 volts ; above this external resistances are supplied

### AMMETERS

Range Zero to : Amps.	Cat. No.	Weight (approx.).		Price each.		
		lb.	kilos.	£	s.	d.
10	M 5620	4½	2.04	3	12	0
20	M 5621	4½	2.15	4	1	0
50	M 5622	5	2.27	4	1	0
100	M 5623	5	2.27	4	2	0
150	M 5624	6	2.72	4	4	0
200	M 5625			4	5	0
250	M 5626			4	8	0
300	M 5627			4	10	0

Ammeters are self-contained up to 10 amps. ; above this external shunts and leads are supplied.

### EXTRAS

	s.	d.		s.	d.
Adaptor Base	5	9	Horsepower Scale*	5	3
Splash Proof .. Prices on application			Horsepower and Ampere Scale*	8	6
			Special Range ..	4	3

\*When ordering Horsepower Scales particulars should be given showing the relation between Horsepower and Amps.

*Moving iron pedestal type measuring instruments can be supplied with 6-in. dials, prices on application.*

## MEASURING INSTRUMENTS

### MOVING IRON PORTABLE TYPE

For Direct and Alternating Current not exceeding 600 volts



**M 3722**

**Dial.**—4-in.

**Length of Scale.**— $3\frac{1}{4}$ -in.

**Overall Dimensions.**— $5\frac{3}{8}$ -in.  $\times$   $5\frac{1}{2}$ -in.  $\times$   $2\frac{1}{4}$ -in.

**Movement.**—Moving iron type, spring controlled dead beat, knife edge pointer.

**Case.**—Polished mahogany.

**Dial.**—White Bristol board, cemented on to metal dial plate. Scale nearly evenly divided.

**Accuracy.**—1st Grade (B.S.S. No. 89), calibrated at a definite frequency not exceeding 50 cycles per second ; the instrument will then have 2nd Grade accuracy when used on D.C.

### VOLTMETERS

Range.	Cat. No.	Weight (approx.).		Price each.		
		lb.	kilos.	£	s.	d
Volts.						
8-40	M 3700	2	.91	3	4	3
15-80	M 3702			3	6	3
20-120	M 3704			3	11	9
50-250	M 3706			3	19	0

### AMMETERS

Range.	Cat. No.	Weight (approx.).		Price each.		
		lb.	kilos.	£	s.	d
Amps.						
.1-1	M 3720	2	.91	3	1	3
.3-3	M 3722					
.4-5	M 3724					
1-10	M 3726					

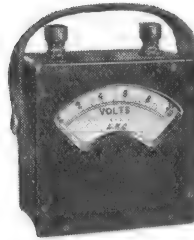
Higher Ranges, prices on application.

*Moving iron portable type measuring instruments can be supplied with 6-in dials, prices on application.*

# MEASURING INSTRUMENTS

## MOVING COIL PORTABLE TYPE

For Direct Current not exceeding 300 volts



**M 3754**

**Dial.**—4-in.

**Length of Scale.**—3½-in.

**Overall Dimensions.**—5⅜-in. × 5½-in. × 2¼-in.

**Movement.**—Moving coil type, spring controlled, dead beat, knife edge pointer, external zero adjuster.

**Case.**—Polished mahogany.

**Dial.**—White Bristol board, cemented on to metal dial plate, scale evenly divided.

**Accuracy.**—1st Grade (B.S.S. No. 89).

## VOLTMETERS

Range Zero to :	Cat. No.	Weight (approx.).		Price each.		
Volts.		lb.	kilos.	£	s.	d.
3	M <b>3750</b>	2½	1.25	4	0	9
6	M <b>3752</b>					
10	M <b>3754</b>					
20	M <b>3756</b>					
50	M <b>3758</b>	2½	1.25	4	5	6
150	M <b>3760</b>			4	15	0
300	M <b>3762</b>			5	9	0

## AMMETERS

Range Zero to :	Cat. No.	Weight (approx.).		Price each.		
Amps.		lb.	kilos.	£	s.	d.
1.5	M <b>3800</b>	2½	1.14	4	8	3
3	M <b>3802</b>					
5	M <b>3804</b>					
10	M <b>3806</b>					
20	M <b>3808</b>	2½	1.25	4	8	3
30	M <b>3810</b>			4	8	3
50	M <b>3820</b>			4	12	0
100	M <b>3822</b>	5	2.27	4	15	0
200	M <b>3824</b>	6½	2.95	5	4	3
300	M <b>3826</b>	6½	2.95	5	7	0

Ammeters are self-contained up to 50 amps. ; above 50 amps., external shunts and leads are supplied.

Voltmeters can be provided with extra resistance to increase range above 300 volts.

Higher Ranges, prices on application.

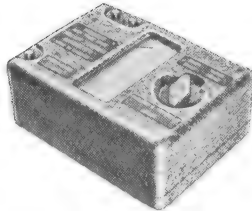
## TESTING INSTRUMENTS

### " MEGGER " OHMMETERS

These are true ohmmeters and within practical limits of reading the accuracy is independent of the voltage of supply.

The indicator system consists of two coils mounted together at a suitable angle on one spindle, which is free to rotate in a powerful magnetic field. The position taken up is indicated by a pointer on a graduated scale and depends on the ratio of the forces developed by the two coils; these are proportioned so that the readings are in terms of ohms or megohms. An easy method is thus available for testing components of electrical appliances in large quantities, the extreme simplicity of operation reducing the testing time to a minimum.

The construction is robust and the instrument will stand up to hard continuous usage.



**M 6304**

The ohmmeters listed below are general utility testing sets for measuring conductor resistance and tracing and locating faults on wireless and other circuits. The instrument case contains a  $4\frac{1}{2}$  volt flash-lamp battery, no other source of supply being required. Two types of terminals are available.

### OHMMETERS

Range (Uniformly Divided Scale)	Type D.Y. Length of Scale, $2\frac{1}{2}$ ins. Bakelite Case. Weight (Approx.) 2 lb.			
	With two terminals and push button.		With three terminals and testing spikes containing push button.	
	Cat. No.	Price each.	Cat. No.	Price each.
		£ s. d.		£ s. d.
0—3	M <b>6300</b> M <b>6301</b> M <b>6303</b> M <b>6304</b>	4 10 0	M <b>6305</b>	4 17 6
0—30			M <b>6306</b>	
0—300			M <b>6308</b>	
0—500			M <b>6310</b>	
100—5000				
0—1000				
100—200000				

**EXTRAS.**—Metal Carrying Case, **5/-**; Leather Case with sling, **12/6**

"Megger" Ohmmeters of single, two and three ranges, requiring an external D.C. voltage for operation, can also be supplied—Details and prices on application.



## TESTING INSTRUMENTS

### " MEG " INSULATION SETS

The " Meg " Insulation Testing Set consists of an ohmmeter of the moving coils type and a self-contained hand generator with free-wheel attachment mounted in one aluminium case.

The following are the chief characteristics of this tester :—

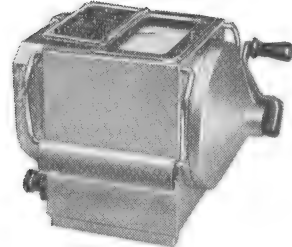
**Direct Reading.**—Direct deflection on scale. Reading instantaneous.

**High Pressure.**—Insulation resistance is measured at pressures up to 1000 volts, according to the type selected.

**Simplicity.**—Very simple in use. Measurements can be effected by unskilled operator.

**Handiness.**—Extremely light. Carried by two folding handles.

**Dimensions.**— $5\frac{1}{2}$  in.  $\times$   $7\frac{3}{4}$  in.  $\times$   $6\frac{1}{2}$  in. (approx.)



**M 6061**

(Registered Design  
No. 690326.  
Patents Pending.)

### VARIABLE PRESSURE

Cat. No.	Pressure at 160 R.P.M.	Range. Megohms	Description.	Weight (approx.)		Price each.		
	Volts.			lb.	kilos.	£	s.	d.
M <b>6050</b>	120	20	Without carrying case ..	$6\frac{3}{4}$	3.07	<b>15</b>	<b>17</b>	<b>6</b>
M <b>6052</b>	250	50						
M <b>6061</b>	500	100						
M <b>6051</b>	100	20	With leather carrying case	9	4.1	<b>17</b>	<b>0</b>	<b>0</b>
M <b>6053</b>	250	50						
M <b>6062</b>	500	100						

### CONSTANT PRESSURE

Cat. No.	Pressure at 160 R.P.M.	Range. Megohms	Description.	Weight (approx.)		Price each.		
	Volts.			lb.	kilos.	£	s.	d.
M <b>6054</b>	100	20	Without carrying case ..	$7\frac{1}{4}$	3.27	<b>18</b>	<b>7</b>	<b>6</b>
M <b>6056</b>	250	50	Without carrying case ..	$7\frac{1}{4}$	3.27	<b>18</b>	<b>7</b>	<b>6</b>
M <b>6064</b>	500	100	Without carrying case ..	$7\frac{1}{4}$	3.27	<b>23</b>	<b>17</b>	<b>6</b>
M <b>6034</b>		500						
M <b>6036</b>		1000						
M <b>6065</b>	1000	200	Without carrying case ..	9	4.1	<b>22</b>	<b>7</b>	<b>6</b>
M <b>6038</b>		1000						
M <b>6040</b>		2000						
M <b>6055</b>	100	20	With leather carrying case	$9\frac{3}{4}$	4.1	<b>19</b>	<b>10</b>	<b>0</b>
M <b>6057</b>	250	50	With leather carrying case	$9\frac{3}{4}$	4.1	<b>19</b>	<b>10</b>	<b>0</b>
M <b>6066</b>	500	100	With leather carrying case	$9\frac{3}{4}$	4.1	<b>19</b>	<b>10</b>	<b>0</b>
M <b>6035</b>		500						
M <b>6037</b>		1000						
M <b>6067</b>	1000	200	With leather carrying case	$11\frac{1}{2}$	5.25	<b>23</b>	<b>15</b>	<b>0</b>
M <b>6039</b>		1000						
M <b>6041</b>		2000						

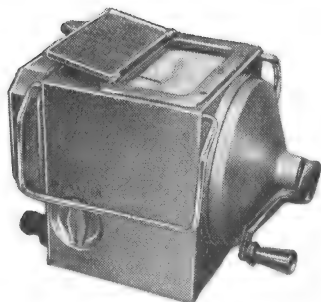
**EXTRAS.**—Range Switch to divide readings by 10, £1 ; to divide readings by 100, £1.

*NOTE.*—Only one of these switches can be fitted to the above testing sets.

## TESTING INSTRUMENTS

### INSULATION AND EARTH CONTINUITY SETS

#### " MEG " PATTERN



M 6045

The " Meg " Insulation Testing Set consists of an ohmmeter of the moving coils type and a self-contained hand generator with free-wheel attachment mounted in one aluminium case.

The following are the chief characteristics of this tester :—

**Direct Reading.**—Direct deflection on scale. Reading instantaneous.

**Pressure.**—With pressure at 500 volts, insulation is measured up to 50 megohms. Resistances from zero up to 100 ohms can also be measured.

**Simplicity.**—Very simple in use. Measurements can be effected by unskilled operator.

**Handiness.**—Extremely light. Carried by two folding handles.

#### VARIABLE PRESSURE

Cat. No.	Generator Pressure.	Ranges.		Description.	Price each.
		Insulation.	Resistance.		
					£ s. d.
M 6045	500	50	0—2—100	Without carrying case ..	17 17 6
M 6047	500	50	0—2—100	With carrying case ..	19 0 0

#### " WEE MEGGER " PATTERN

The " Wee Megger " testing set consists of an ohmmeter of the moving coils type and a hand driven generator, the whole contained in a single case.

**Direct Reading.**—Direct deflection on scale ; reading instantaneous.

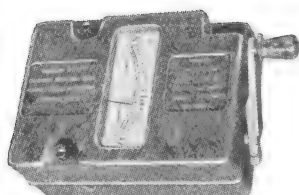
**Terminals.**—Special spring plunger type is used for rapid attachment. No projections or loose parts.

**Case.**—Moulded insulation material.

**Dimensions.**— $5\frac{1}{2} \times 4 \times 2\frac{3}{8}$  in.

**Length of Scale.**— $2\frac{1}{2}$  in.

**Weight.**—3 lb.



M 6070/3/6

#### VARIABLE PRESSURE

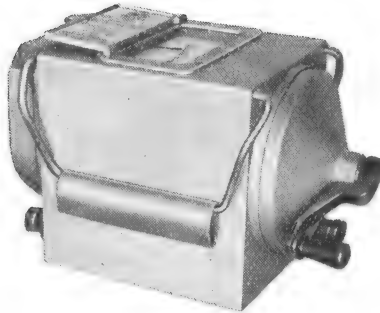
Cat. No.	Generator Pressure.	Range.	Price each (without case).
			£ s. d.
M 6070	100	5	} 8 5 0
M 6073	250	10	
M 6076	500	20	

#### EXTRAS

Metal carrying case, 5/- ; Leather carrying case, 10/-.

# TESTING INSTRUMENTS

## " MEG " EARTH SETS



**M 6096**

The " Meg " Earth Tester is similar in appearance to the " Meg " Insulation Testing Set referred to on the previous page, the ohmmeter and generator being contained in one aluminium case.

The case is fitted with three terminals, one of which is placed at the generator handle and is marked " earth." The two others at the ohmmeter end are marked " P " and " C " respectively.

**Method of Test.**—The earth terminal should be connected to the earth plate or metal structure, the resistance of which is to be measured, and two spikes, one connected to the " P " and the other to the " C " terminal, driven into the ground, each about 50 feet from the earth plate and from each other. The instrument is so designed that the resistance which the temporary testing spikes make with the earth does not materially affect the accuracy of the reading. A water main can be used instead of the spikes in the ground, the earth terminal being connected as previously described and the other terminals joined together by a wire, which should then be connected to the water main.

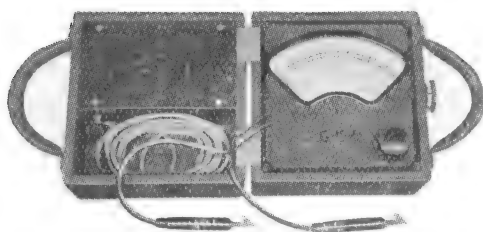
Catalogue No.	Range.	Weight (approx.).		Price.		
	Ohms.	lb.	kilos.	£	s.	d.
M <b>6099</b>	0—50	6½	3·07	}	20	10 0
M <b>6096</b>	0—300	6½	3·07			
M <b>6097</b>	0—600	7½	3·27			
M <b>6098</b>	0—1000	7½	3·27			

### EXTRA

Leather Carrying Case, £1 10s. Od.

## TESTING INSTRUMENTS

### EARTH CONTINUITY SET



**M 4144** Earth Continuity Test Set.

This new portable self-contained test set complete with battery has been developed by the G.E.C., in compliance with I.E.E. Regulations, for measuring the resistance of earth connections, whether consisting of copper conductors, conduits or cable armouring.

For many years the necessity for measuring this resistance has been realised in mining and industrial installations. In addition, the new I.E.E. Wiring Regulations, 10th Edition, September, 1934, make such a measurement equally essential for domestic or other installations. Rule 1005D of these Regulations requires that the resistance of the whole of the metal conductors used for earthing purposes measured from any piece of apparatus to the earth electrode shall not exceed 1 ohm. The new G.E.C. test set supplies a simple method of making the necessary measurement of resistance and thus ascertaining whether the installation complies with this Rule.

For the operation of this set it is only necessary to connect it to the conductors whose resistance is to be measured, when the resistance in ohms is immediately indicated. The set reads up to 15 ohms.; it has a particularly open scale up to 2 ohms, and a red line indicates the 1-ohm mark, which is the maximum allowed by the Regulations.

The battery passes an appreciable current through the conductor instead of the few milliamperes usual with smaller test sets; on a 1-ohm resistance the current is 1 amp., and on short circuiting the test leads of the set a current of 2 amps. will flow. The instrument is fitted with the usual zero adjuster for setting the pointer when no current is flowing.

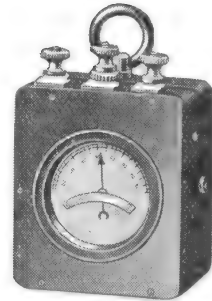
Cat. No.	Overall Dimensions (approx.)	Weight (approx.)	Price each.
M <b>4144</b>	7½ × 7½ × 7 ins.	10 lb.	£ 9 s. 2 d. <b>9 2 0</b>

## TESTING INSTRUMENTS

### LINESMAN'S DETECTORS

The Standard G.E.C. type comprises a dovetailed polished mahogany case, brass terminals, ring and bezel, silvered dial (graduated to 90°), and ivory bobbins.

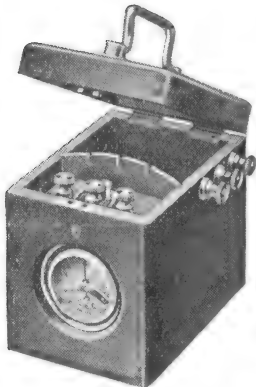
**Overall Dimensions.**— $4 \times 6\frac{1}{2} \times 2\frac{1}{4}$  ins.



**M 5302**

Cat. No.	Description.	Price each.
		£ s. d.
M 5300	Single bobbin for intensity .. .. .	1 11 9
M 5301	Single bobbin for up to 500 ohms .. .	1 17 0
M 5302	Double bobbin for intensity and quantity ; label in case gives particulars of resistance, etc. ..	1 17 0

**EXTRA.**—Strong leather case, with sling strap, to contain above detectors. **17s. 0d.**



**M 5303**

### COMPLETE STANDARD OUTFIT

Polished mahogany case, with lock and key, lacquered handle, with aperture for galvanometer ; containing one M 5302 detector and space for four G.E.C. No. 4 dry cells.

**Overall Dimensions.**— $6 \times 5\frac{1}{4} \times 4\frac{1}{2}$  ins.

Cat. No. M 5303,

Price each **£2 14s. 0d.** (excluding cells).

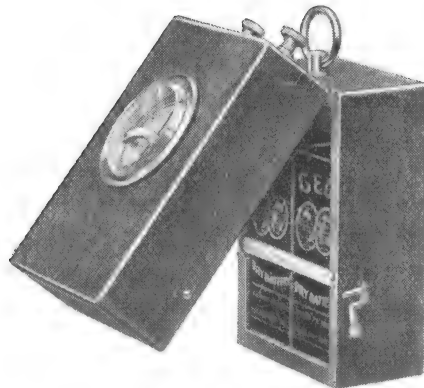
### COMPACT TESTING SET

Polished mahogany case ; brass bezel and fittings ; space for two No. 4 G.E.C. dry cells.

**Overall Dimensions.**— $3\frac{1}{4} \times 3\frac{1}{4} \times 6$  ins.

Cat. No. M 5304,

Price each, **£2 10s. 0d.** (excluding cells).



**M 5304**

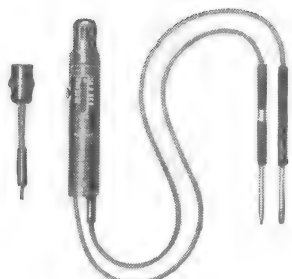
## TESTING INSTRUMENTS

### DETECTOSCOPES

(Patent No. 10925/29)

To replace Test Lamps

#### THE DETECTOSCOPE



**M 6427**

Detectoscope with Adaptor.

Indicates all voltages from 100 to 600 a.c. or d.c.  
Locates earths in conduit systems.  
Finds open circuits.  
Shows which fuse has blown.  
Indicates neutral wire.  
Can be used for continuity test.  
Is an efficient pole finder.  
Indicates if a.c., d.c. or rectified d.c.  
Tests condensers.  
Can be used for leak test.

Used with adaptor as illustrated the Detectoscope is a useful tester for general bench use. Full operating instructions are supplied with each tester.

Cat. No.	Description.	Price each.
		£ s. d.
M 6426	Detectoscope only .. ..	1 2 0
M 6427	Detectoscope with adaptor ..	1 4 0
—	Carrying wallet .. ..	3 0

### POLARITY INDICATORS Liquid Pattern (Pocket Size)



**M 6424**

Cat. No.	Description.	Price each.
		s. d.
M 6424	Instantly indicates negative pole of D.C. circuit by temporary colouring of one electrode. Glass tube is protected by revolving nickel plated shell ..	8 3

### POLE-FINDING PAPER

Cat. No.	Description.	Size of Strip.	Price each.
		Ins.	s. d.
M 6430	Book containing paper sufficient for about 100 tests (instructions for use inside each book)	1 x 1/4	1 6



**M 900**

### ILLUMINATION METER

This instrument is designed for the direct measurement of illumination foot-candles.

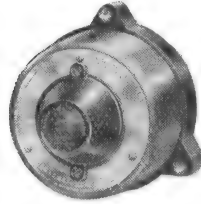
It comprises a metal-oxide photo-electric cell and a calibrated microammeter in one case, and requires no battery or auxiliary apparatus. The cell is contained in the lid of the instrument so that it is protected from damage and from strong daylight when the case is closed. The indicator is a moving coil microammeter of low range and sufficient sensitivity for the type of cell used. Full-scale deflection is given on a scale of about 2 1/2 ins. for 50 foot-candles, and the scale is subdivided every 1 foot-candle.

This meter is of the utmost utility to public lighting engineers, inspectors, works engineers, contractors, architects, electric lamp sales departments, etc.

Cat. No.	Overall Dimensions (approx.).	Weight (approx.).	Price each.
			£ s. d.
M 900	2 1/4 ins. dia. x 2 1/4 ins. deep ..	10 ozs.	5 16 0

# REGULATING INSTRUMENTS

## THERMOSTATS



**X 7980**

(Provisional Patent No. 11453.)

This thermostat is particularly suitable for use in conjunction with MAGNET tubular heaters. At the desired temperature it switches the current on and off automatically, thus economizing in the consumption of current.

**Base.**—Brown moulded Bakelite.

**Movement.**—Quick make and break, fitted with magnetic blowout.

**Cover.**—Pressed metal, finished in bronze, and totally enclosed, thus avoiding accumulation of dust which is a common source of trouble.

**Range of Calibration.**—From 40° up to 130° F., with 3° F. overlap between opening and closing.

**Load.**—Up to 15 amps. 250 volts A.C., and 0.1 amp. 250 volts D.C.

**Sealing.**—The adjusting knob is provided with a Bakelite cap held in position by two screws to avoid unauthorized interference.

**Method of Fixing.**—The thermostat is secured to a hardwood block, 4½ ins. dia. by ½ in. thick, which is drilled with fixing holes at centres suitable for screwing to a British Standard conduit box.

**Terminals.**—The terminals for connecting to the cables are arranged at the back of the thermostat, and are easily accessible, thereby avoiding the necessity of opening the thermostat which might interfere with the mechanism.

A visible but inconspicuous earth terminal is provided.

Cat. No.	Dimensions.			Weight (approx.).			Price.		
	Height.	Width.	Projection.	lb.	oz.	kilos.	£	s.	d.
<b>X 7980</b>	ins. 4	ins. 3½	ins. 3¾	1	5	0.59	1	17	4

# MEASURING AND TESTING INSTRUMENTS

The Measuring and Testing Instruments described and illustrated in the foregoing pages of this Catalogue constitute only a representative range of the products of the G.E.C. in this category.

Detailed particulars and prices are available, on request, of a much more extended range of instruments, included among them being:—

## Switchboard Instruments:—

Round (Projecting) Pattern.

Round (Flush) Pattern.

Oval.

Rectangular.

Pedestal.

Edgewise.

Sector.

## Leakage Detectors.

## Portable Instruments:—

M.I. and M.C. Instruments.

Lamp Testing Wattmeters.

Double Range Instruments.

Combined Instruments.

Meter Test Room Instruments.

## Testing Instruments.

## Workshop Ohmmeters.

## Testing Sets:—

Insulation.

Resistance and Insulation.

Earth.

Low Resistance.

Earth Continuity.

## Recording Instruments:—

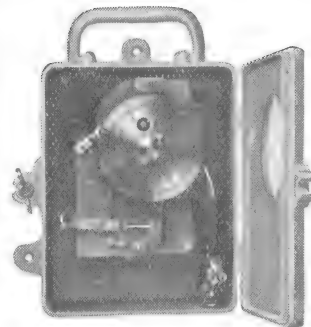
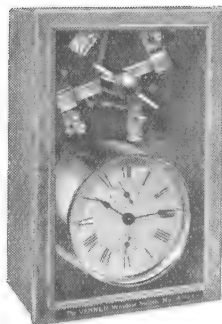
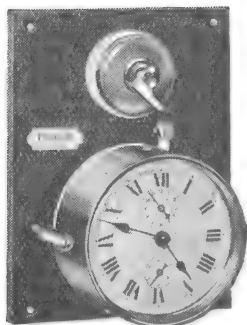
Switchboard pattern.

Portable pattern.

# J.E.C.

## "VENNER" TIME SWITCHES

FOR SHOP WINDOW LIGHTING, SIGNS, ETC.



X 4120 "Exauto" Type. X 4130 Window Type X 4135 "Venoff" Type.

### SYNCHRONOUS MOTOR DIRECT-DRIVEN TYPE

For use on A.C. Time Controlled Supplies only

To switch On and Off at Pre-determined times

Cat. No.	Type.	Amps.	No. of Poles.	Operation.	Case.	Price each.		
X 4020	MPX	10	1	On and off .. ..	Metal	£	s.	d.
X 4021	MXS	10	1	do. with Sunday Selection ..	do.	3	11	3
X 4022	MXX	20	1	On and off .. ..	do.	5	7	6
X 4023	MC	50	1	do. .. ..	do.	7	7	6
X 4024	MX4	10	2	On and off .. ..	Metal	5	10	0
X 4025	MXX4	20	2	do. .. ..	do.	6	17	6
X 4026	MC4	50	2	do. .. ..	do.	8	12	6
X 4030	MX6	10	3	On and off .. ..	Metal	6	12	6
X 4031	MXX6	20	3	do. .. ..	do.	8	7	6
X 4032	MC6	50	3	do. .. ..	do.	10	2	6

### TIME SWITCHES WITH HAND-WOUND SPRING-DRIVEN 40-DAY CLOCKS\*

Suitable for 230 volt 50 cycle A.C. supply only

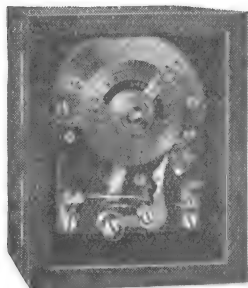
Cat. No.	Type.	Amps.	No. of Poles.	Operation.	Case.	Price each.		
X 4035	EX	10	1	Change over, no off position .. ..	Metal	£	s.	d.
X 4036	BX222	10	2	do. .. ..	do.	7	3	3
X 4037	BX333	10	3	do. .. ..	do.	9	2	6
X 3985	BX	10	1	On and off .. ..	Metal	6	18	9
X 4038	BX202	10	2	do. .. ..	do.	8	2	9
X 4039	BX303	10	3	do. .. ..	do.	9	2	6

\* These Time Switches can be fitted with synchronised motor wind with 36 hours spring reserve for 230 volts circuit at same price. Please specify when ordering.

For voltages up to 400, 15/- extra.



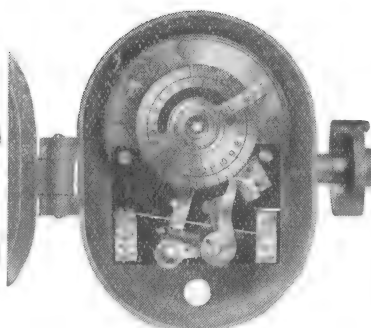
## “VENNER” TIME SWITCHES



X **3980/2**  
Type BH & BH2.



X **3986**  
Type “Autonoff.”



X **3981/3**  
Type BF & BF2.

### TIME SWITCHES WITH HAND-WOUND SPRING-DRIVEN CLOCKS To switch Off only—SINGLE POLE

Cat. No.	Type.	Capacity. Up to 250 v.		Clock Days.	Case.	Price each.		
		D.C.	A.C.			£	s.	d.
		Amps.	Amps.					
X <b>4120</b>	Exauto	5	5	1	Wood	1	11	6
X <b>4130</b>	Window	10	20	1	Wood	2	5	0
X <b>4135</b>	Venoff	10	20	Variable up to 60 mins.	Metal	5	12	6
X <b>4125</b>	Staircase	—	5	1-5 mins. . . .	Metal	5	12	6
X <b>4126</b>	Staircase	5	—	1-5 mins. . . .	Metal	7	15	0

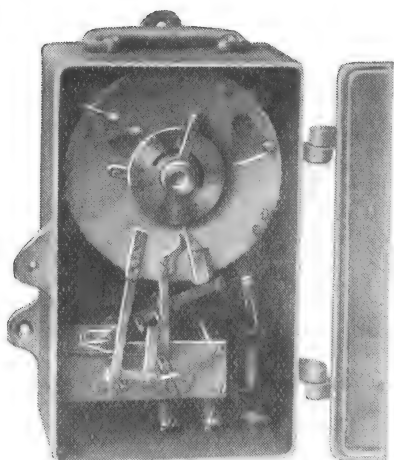
### TIME SWITCHES WITH HAND-WOUND SPRING-DRIVEN CLOCKS To Switch On and Off at Pre-determined Times Operates 7 Days per Week SINGLE POLE

Cat. No.	Type.	Capacity Up to 250 v.		Capacity Up to 500 v.		Clock Days.	Case.	Price each.		
		D.C.	A.C.	D.C.	A.C.			£	s.	d.
		Amps.	Amps.							
X <b>3980</b>	BH	1	1	—	—	8	Wood	2	12	6
X <b>3981</b>	BF	1	1	—	—	15	Metal	3	11	3
X <b>3982</b>	BH2	5	5	—	—	8	Wood	3	0	0
X <b>3983</b>	BF2	5	—	—	—	15	Metal	3	15	0
X <b>3983A</b>	BFV	—	5	—	—	15	do.	3	15	0
X <b>3984</b>	B2*	5	5	—	—	40	do.	6	15	0
X <b>3984A</b>	BV*	—	5	—	—	40	do.	6	15	0
X <b>3985</b>	BX*	—	10	—	—	40	do.	6	18	9
X <b>3986</b>	Autonoff	10	20	—	—	8	do.	3	18	9
X <b>3987</b>	CF*	10	20	2	10	15	do.	7	6	3
X <b>3988</b>	CX*	10	20	2	10	40	do.	8	1	3
X <b>3989</b>	CH	25	50	—	—	8	do.	6	3	9
X <b>3990</b>	CCF*	25	50	10	25	15	do.	7	17	6
X <b>3991</b>	C*	25	50	25	50	40	do.	8	8	9
X <b>3992</b>	CV*	50	50	—	—	40	do.	9	9	0

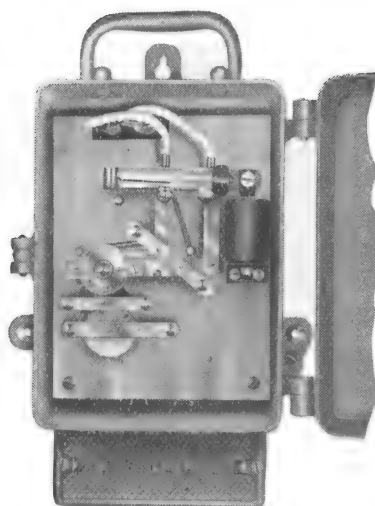
\*For Extras see next page.

# S.E.C.

## "VENNER" TIME SWITCHES



**X 3991 Type C.**



**X 4125 Staircase Type.**

**SWITCHES WITH HAND-WOUND SPRING-DRIVEN CLOCKS**  
**To Switch On and Off at Pre-determined Times**  
**Operates 7 Days per Week**

### DOUBLE POLE

Cat. No.	Type.	Capacity Up to 250 volts.		Capacity Up to 500 volts.		Clock Days.	Case.	Price each.		
		D.C.	A.C.	D.C.	A.C.			£	s.	d.
		Amps.	Amps.	Amps.	Amps.					
X 3994	CF4*	20	20	7	15	15	Metal	8	5	0
X 3995	CX4*	20	20	7	15	40	do.	8	16	3
X 3996	C4*	50	50	25	50	40	do.	9	9	0

### TRIPLE POLE

X 3997	CF6*	20	20	7	15	15	Metal	9	0	0
X 3998	CX6*	20	20	7	15	40	do.	9	7	6
X 3999	C6*	—	50	—	50	40	do.	10	10	0

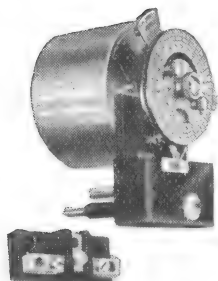
**Extra for Types marked\***

		£	s.	d.
Early or late hour device	..	16	9	
Selective device	..	16	9	
Both above	..	1	4	3

### EXTRAS

		£	s.	d.
Solar Dial, can be fitted to any switch with 40-day clock	{ Electrically wound .. .. . Synchronise drive .. .. . Synchronise drive with spring reserve }	1	2	6
Extra Hands per pair (fitted to all types)	.. .. .		3	9

## "VENNER" TIME SWITCHES



**WITH ELECTRICALLY-WOUND SPRING-DRIVEN CLOCKS  
A.C. and D.C.**

**To Switch On and Off at Pre-determined Times  
Operates 7 Days per Week**

### SINGLE POLE

Cat. No.	Type.	Capacity Up to 250 volts.		Capacity Up to 500 volts.		Case.	Price.		
		D.C.	A.C.	D.C.	A.C.		£	s.	d.
X <b>3970</b>	EWB2*	5	5	—	—	Metal	6	15	0
X <b>3971</b>	EWBX*	—	10	—	—	do.	6	18	9
X <b>3972</b>	EWCX*	10	20	2	10	do.	8	1	3
X <b>3973</b>	EWCV*	25	50	25	50	do.	8	8	9
X <b>3974</b>	EWCV*	50	50	—	—	do.	9	9	0

### DOUBLE POLE

Cat. No.	Type.	Capacity Up to 250 volts.		Capacity Up to 500 volts.		Case.	Price.		
		D.C.	A.C.	D.C.	A.C.		£	s.	d.
X <b>3975</b>	EWCX4*	20	20	7	15	Metal	8	16	3
X <b>3976</b>	EWCV4*	50	50	25	50	do.	9	9	0

### TRIPLE POLE

Cat. No.	Type.	Capacity Up to 250 volts.		Capacity Up to 500 volts.		Case.	Price.		
		D.C.	A.C.	D.C.	A.C.		£	s.	d.
X <b>3977</b>	EWCX6*	20	20	7	15	Metal	9	7	6
X <b>3978</b>	EWCV6*	—	50	—	50	do.	10	10	0

\* For Extras see previous page.

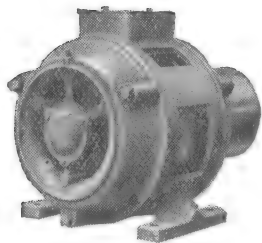
*Exact Voltage and Frequency if A.C. must be stated when ordering.*

*On A.C. circuits any of the above can be supplied with a Synchronous Motor Wind, with 36 hour spring reserve.*

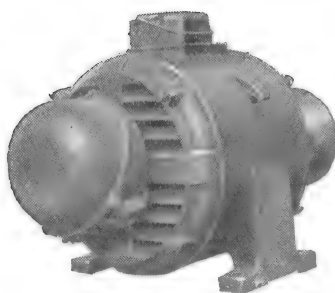
## “WITTON” ALTERNATING CURRENT MOTORS

400/440 VOLTS, 3 PHASE, 50 CYCLES

**All “Witton” Motors comply in every respect with British  
Standard Specification 168/1926.**



WITTON Protected Squirrel  
Cage Motor. Frame sizes  
A0-A121.



WITTON Protected Slip Ring Motor,  
with totally enclosed slip rings.  
Frame sizes A126-A146.

### MAIN FEATURES OF DESIGN

**Heavy overload capacity and low temperature rise.**

Only the **highest class of insulation** employed.

**All coils impregnated before assembly.**

A most efficient system of **forced ventilation**.

**Brush holders** of “sliding box” pattern, box and body of brush holder being in one casting. Individual brushes can be removed independently.

**Ball or roller bearings** fitted to standard machines. Housings for bearings cast in one with end brackets.

**Terminal box** mounted on top of frame. Either three or six terminals brought out. Arranged for conduit, but sealing boxes, armour clamps, and wiping glands supplied if required. In small machines a lead bushed hole is provided unless otherwise specified.

### POINTS TO BE NOTED WHEN ORDERING.

**Stock machines** are tested and ready for despatch. Other types and sizes are in progress. Full particulars will be forwarded on request.

**Special machines.** Quotations for large or special machines can be obtained on application.

**Voltage.** The motors listed are wound for 400/440 volts.

**Brush-lifting and short circuiting gear** are not fitted to stock machines, but can be supplied as a special feature if required.

**Control gear.** Method of starting must be stated on the order. The starter recommended by the G.E.C. for each motor is included in the lists.

# “ WITTON ” SQUIRREL CAGE MOTORS

**400/440 VOLTS, 3-PHASE, 50 CYCLES**

**PRICES 1-10 H.P.**

(Protected Type Machines.)

The stock item numbers for motors enable reference to be made to the G.E.C. Witton Monthly Stock List. Where no stock item is given, machines are not stocked.

For particulars of starters recommended below and of alternative types refer to pages 735 to 737 of this catalogue.

MOTOR PARTICULARS											STARTER PARTICULARS.			
H.P.	Speed R.P.M.	Frame Size.	Stock Item.	Price Protected Type.	Extras							Cat. No.	Type and Price.	
					Price Slide Rails.	Pulley								
						Size ins.	Price.							
				£	s.	d.	s.	d.	dia. face	£	s.	d.		
1	2800	A2	M11	5	0	0	4	0	*	*			X 10971	
	1410	A2	M13	4	11	0	3	8	3½ × 2	8	6			
	940	A4	M15	5	15	0	4	8	4½ × 3	10	6			
	695	A6	M17	8	14	0	7	0	4½ × 3	10	6			
2	2800	A4	M21	6	0	0	4	10	*	*			X 10972	
	1410	A4	M23	5	15	0	4	8	4½ × 3	10	6			
	940	A6	M25	7	12	0	6	1	4½ × 3	10	6			
	695	A8	M27	9	9	0	7	7	6 × 4½	15	0			
3	2800	A6	M31	7	4	0	5	10	*	*			X 10973	
	1425	A6	M33	7	3	0	5	9	4½ × 3	10	6			
	940	A8	M35	8	8	0	6	9	6 × 4½	15	0			
4	705	A12	M39	11	19	0	9	7	8 × 6	1	0	0	X 10973A	
5	2800	A8	M43	8	15	0	7	0	*	*			X 10974	
	1425	A8	M45	8	19	0	7	2	6 × 4½	15	0			
	950	A12	M47	11	1	0	8	10	8 × 6	1	0	0		
	705	A12½	M49	13	8	0	10	9	8 × 6	1	0	0		
7½	2800	A10	M53	11	5	0	9	0	*	*			X 10718	Direct-to-line (Con- tactor type) £ s. d. 3 11 6
	1440	A10	M55	11	3	0	9	0	8 × 6	1	0	0		
	950	A12½	M57	13	0	0	10	5	8 × 6	1	0	0		
	710	A122	M59	15	19	0	12	10	8 × 6	1	0	0		
10	2850	A11	—	12	15	0	10	3	*	*			X 10719	Direct-to-line (Con- tactor type) £ s. d. 4 3 3
	1440	A11	M63	12	17	0	10	4	8 × 6	1	0	0		
	955	A122	M65	15	10	0	12	5	8 × 6	1	0	0		
	710	A130	M67	18	15	0	15	0	10 × 7	1	7	0		

\*Standard Pulleys are not supplied for these machines.

For points to be noted when ordering, see page 724.

## “ WITTON ” SQUIRREL CAGE MOTORS

400/440 VOLTS, 3-PHASE, 50 CYCLES

**PRICES 12½-50 H.P.**

(Protected Type Machines).

The stock item numbers for motors enable reference to be made to the G.E.C. Witton Monthly Stock List. Where no stock item is given, machines are not stocked.

For particulars of starters recommended below and of alternative types refer to pages 735 to 737 of this catalogue.

MOTOR PARTICULARS.													STARTER PARTICULARS.			
H.P.	Speed R.P.M.	Frame Size.	Stock Item.	Price Protected Type.	Extras								Cat. No.	Type and Price.		
					Price Slide Rails.			Pulley			Size Ins.	Price.				
				£	s.	d.	£	s.	d.	dia. face			£	s.	d.	
12½	955	A129	M71	17	12	0	14	1	10	10×7	1	7	0	X 10966	Airbreak Star-Delta	
	715	A131	—	22	5	0	17	10	10×7	1	7	0	£ s. d. 5 1 9			
15	2850	A123	—	16	1	0	12	11	*	*	X 10967	5 1 9	£ s. d. 5 1 9			
	1450	A123	M75	16	15	0	13	5	8×6	1				0	0	
	960	A130	M77	19	13	0	15	9	10×7	1				7	0	
	720	A138	M79	25	13	0	1	0	7	12×7				1	12	0
17½	2850	A124	—	17	13	0	14	2	*	*	—					
	960	A131	—	22	4	0	17	10	10×7	1				7	0	
20	2850	A125	—	18	15	0	15	0	*	*	X 10968	5 8 3	£ s. d. 5 8 3			
	1450	A127	M83	19	19	0	16	0	10×7	1				7	0	
	970	A138	M85	23	17	0	19	1	12×7	1				12	0	
	720	A139	M87	31	12	0	1	5	4	12×7				1	12	0
25	2870	A1251	—	21	14	0	17	5	*	*	X 10969					
	1450	A128	M91	23	9	0	18	10	10×7	1				7	0	
	970	A139	M93	27	12	0	1	2	1	12×7				1	12	0
	725	A140	M95	37	5	0	1	9	10	12×7				1	12	0
30	1455	A135	—	27	9	0	1	2	0	12×7	1	12	0	—		
	975	A140	—	34	11	0	1	7	8	12×7	1	12	0			
	730	A145	—	43	10	0	1	14	10	12×7	1	12	0			
35	2870	A133	—	26	2	0	1	0	11	*	*	—		Oil immersed Star-Delta		
40	1460	A136	—	34	1	0	1	7	3	12×7	1	12	0		X 11030	£ s. d. 13 9 3
	975	A145	—	41	16	0	1	13	6	12×7	1	12	0			
	730	A146	—	53	8	0	2	2	9	*	*					
45	2900	A134	—	34	18	0	1	8	0	*	*	—				
50	1460	A137	—	40	15	0	1	12	8	12×7	1	12	0	—		
	975	A146	M109	50	5	0	2	0	3	12×7	1	12	0			
	730	A154	—	61	0	0	2	8	10	*	*					

\* Standard Pulleys are not supplied for these machines.

For points to be noted when ordering, see page 724.

# **“WITTON” SLIP RING MOTORS**

**400/440 VOLTS, 3-PHASE, 50 CYCLES**

## **PRICES 4-15 H.P.**

*(Protected Type Machines).*

The stock item numbers for motors enable reference to be made to the G.E.C. Witton Monthly Stock List. Where no stock item is given, machines are not stocked.

For particulars of starters recommended below and of alternative types refer to pages 738 and 739 of this catalogue.

MOTOR PARTICULARS.														STARTER PARTICULARS.		
H.P.	Speed R.P.M.	Frame Size.	Stock Item.	Price Protected Type.			Price Slide Rails.			Extras.			Rotor Panel with no-volt and 3 O/L			
										Pulley.			Cat. No.	Type and Price.		
				Size ins.	Price.											
				£	s.	d.	£	s.	d.	dia. face	£	s.	d.			
4	700	A121	—	18	13	0	15	0	0	8×6	1	0	0	—	} Air-break type. £ s. d. 9 18 0	
5 {	1400	A10	M119	16	0	0	12	10	0	8×6	1	0	0	X 10994		} £ s. d. 9 18 0
	930	A121	M121	18	6	0	14	8	0	8×6	1	0	0	X 10994A		
6	700	A122	—	21	10	0	17	3	0	8×6	1	0	0	—	} Air-break type. £ s. d. 10 2 6	
7½ {	1410	A11	M123	18	6	0	14	8	0	8×6	1	0	0	X 10985		} £ s. d. 10 2 6
	930	A122	M125	21	2	0	16	11	0	8×6	1	0	0	X 10985A		
	700	A129	M127	23	13	0	19	0	0	10×7	1	7	0	X 10985B		
10 {	1410	A123	M129	20	11	0	16	6	0	8×6	1	0	0	X 10986	} Air-break type. £ s. d. 10 8 9	
	700	A130	M131	27	4	0	1	10	0	10×7	1	7	0	X 10986A		
12	2850	A124	—	19	1	0	15	3	0	*	*	*	*	—	} Air-break type. £ s. d. 10 14 6	
12½ {	1410	A126	M135	22	18	0	18	4	0	10×7	1	7	0	X 10987		} £ s. d. 10 14 6
	925	A129	M137	26	13	0	1	4	0	10×7	1	7	0	X 10987A		
	700	A131	—	30	19	0	4	10	0	10×7	1	7	0	—		
15 {	2850	A125	—	21	9	0	17	2	0	*	*	*	*	—	} Air-break type. £ s. d. 11 0 9	
	1420	A127	—	25	6	0	1	0	3	10×7	1	7	0	—		
	945	A130	M141	29	8	0	3	7	0	10×7	1	7	0	X 10995		
	700	A138	M143	34	8	0	1	7	7	12×7	1	12	0	X 10995A		

\* Standard pulleys are not supplied for these machines.

*For points to be noted when ordering, see page 724.*

## “WITTON” SLIP RING MOTORS

400/440 VOLTS, 3-PHASE, 50 CYCLES

### PRICES 20-50 H.P.

(Protected Type Machines).

The stock item numbers for motors enable reference to be made to the G.E.C. Witton Monthly Stock List. Where no stock item is given, machines are not stocked.

For particulars of starters recommended below and of alternative types refer to pages 738 and 739 of this catalogue.

MOTOR PARTICULARS.													STARTER PARTICULARS.		
H.P.	Speed R.P.M.	Frame Size.	Stock Item.	Price Protected Type.			Extras.						Rotor Panel with no-volt and 3 O/L		
							Price Slide Rails.	Pulley.			Cat. No.	Type and Price.			
				Size ins.	Price.										
				£	s.	d.	£	s.	d.	dia. face	£	s.	d.		
20	2850	A1251	—	25	10	0	1	0	5	*	*	*	*	—	Air-break type. £ s. d. 13 11 6
	1420	A128	M147	29	19	0	1	4	0	10 × 7	1	7	0	X 10996	
	945	A138	M149	34	18	0	1	8	0	12 × 7	1	12	0	X 10996A	
	705	A139	M151	41	11	0	1	13	3	12 × 7	1	12	0	X 10996B	
25	2850	A132	—	29	8	0	1	3	7	*	*	*	—	Air-break type. £ s. d. 14 18 6	
	1430	A135	—	34	12	0	1	7	9	12 × 7	1	12	0		—
	950	A139	M155	40	7	0	1	12	4	12 × 7	1	12	0		X 10997
	705	A140	M157	48	10	0	1	18	10	12 × 7	1	12	0		X 10997A
30	950	A140	M161	45	16	0	1	16	8	12 × 7	1	12	0	X 10998	Air-break type. £ s. d. 15 16 0
	710	A145	M163	55	3	0	2	4	3	12 × 7	1	12	0	X 10998A	
35	2900	A133	—	37	6	0	1	9	11	*	*	*	X 10805	Oil- immersed type. £ s. d. 22 14 6	
	1440	A136	—	43	18	0	1	15	2	12 × 7	1	12	0		X 10805A
	720	A146	—	62	5	0	2	9	10	12 × 7	1	12	0		X 10805B
40	950	A145	M167	56	19	0	2	5	7	12 × 7	1	12	0	X 10806	Oil- immersed type. £ s. d. 23 7 3
45	2900	A134	—	49	9	0	1	19	7	*	*	*	—		
	1445	A137	M173	53	2	0	2	6	6	12 × 7	1	12	0	X 10807	
	725	A153	M175	75	12	0	3	0	6	—	—	—	X 10807A		
50	1450	A143	—	57	13	0	2	6	2	12 × 7	1	12	0	—	
	955	A146	—	68	1	0	2	14	6	12 × 7	1	12	0	—	
	575	A162	M179	102	11	0	4	2	1	*	*	*	X 10808		

\*Standard Pulleys are not supplied for these machines.

For points to be noted when ordering, see page 724.



# **“WITTON” SINGLE PHASE REPULSION INDUCTION MOTORS**

**230 AND 460 VOLTS, 50 CYCLES**

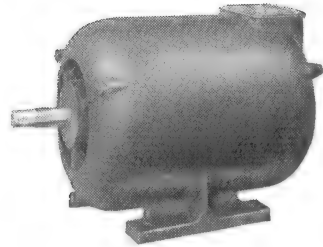
**SPECIFICATION.                      1-5 H.P.**

**The Machines comply with Clauses of British Standard Specification 168/1926 which apply to this type of Motor.**

**SPECIAL FEATURES.**

**Starting Torque.** With direct-to-line starting from 3 to  $3\frac{1}{2}$  times full load torque is obtained with only 2 to  $2\frac{1}{2}$  times full load current.

**Brush Lifting and Short Circuiting Device** is provided for automatically lifting the brushes clear of the commutator which is simultaneously short-circuited. Perfect contact is assured between the commutator and the short-circuiting ring even after long periods of service.



WITTON Repulsion Induction Motor.

**Direction of Rotation** is dependent upon the brush position. Before leaving the works the brushes are set for **counter** clockwise rotation when looking at the commutator end of the machine. Clockwise rotation is obtained by moving the brushes in a clockwise direction to the alternative brush position, by means of the pointer provided. Both brush positions are clearly marked on the end bracket of the machine.

**Bearings.** Ball and roller bearings are provided.

**Terminals.** In machines of 1 h.p. the connecting leads are brought through bushed holes in the bearing bracket. In machines of 2 h.p. and upwards, the terminal box is on the top of and cast in one piece with the commutator end bearing bracket and is readily accessible.

**PRICES.**

The stock item numbers for motors enable reference to be made to the G.E.C. Witton Monthly Stock List.

For particulars of starters recommended below refer to page 735 of this catalogue.

MOTOR PARTICULARS.										STARTER PARTICULARS †			
H.P.	Stock Item.	Frame Size.	Speed R.P.M.	Price Protected Type.		Slide Rails.	Extras				Recommended Starter		
							Pulley		Cat. No.	Type and Price.			
				£	s.		d.	s.			d.	Size ins.	Price.
1	* M201	R2	1440	9	3	0	8	3	dia. face 3½ × 2	8	6	X 10971	Direct-to-line Contactor Type. £ s. d. 2 5 6
2	M203	R3	1450	11	8	6	9	6	4½ × 3	10	6	X 10972	
3	M205	R4	1450	13	14	0	9	6	4½ × 3	10	6	X 10973	
5	M207	R5	1450	18	19	0	9	6	5 × 4	12	6	X 10974	

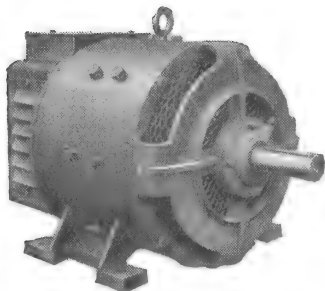
*For further details see Technical Description No. 320, available on application.*

† Voltage should be specified when ordering.

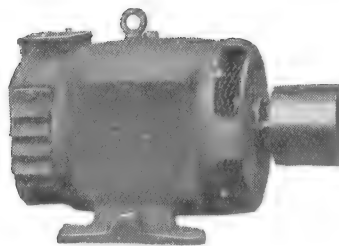
\* Wound for 115 and 230 volts only.

## “WITTON” DIRECT CURRENT MOTORS

**All “Witton” Motors comply in every respect with British  
Standard Specification 168/1926.**



WITTON Protected or Enclosed Ventilated D.C. Motor.  
(Frame sizes C7B to C10E.)



WITTON Protected D.C. Motor  
(typical of Frame Sizes below C7B).

### MAIN FEATURES OF DESIGN

Only the **highest class of insulation** employed.

**All Coils Impregnated before assembly.**

A most efficient system of **forced ventilation**.

**Field coils** are wound on insulating spools and are easily replaceable.

**Armature** is practically indestructible, being built of the highest grade materials and insulated with mica.

**Brushes** can be lifted and adjusted independently, and are set in the best commutating position before the motors leave the works.

**Ball and roller bearings** are supplied on all sizes.

**Terminals** are housed in an enclosure cast integrally with the commutator end bracket and are readily accessible. They are mounted on bakelised bars. Provision can be made for any form of cable entry.

### POINTS TO BE NOTED WHEN ORDERING

**Voltage.** Motors are designed for 220 and 440 volts.

220 volt motors will run on circuits from 210 to 240 volts.

440 volt motors will run on circuits from 430 to 480 volts.

The H.P. will vary in direct proportion to the variation of voltage from the standard, while the speed will vary approximately in proportion to the voltage for voltages above standard and 0.5 per cent. for each 1 per cent. variation for voltages below standard.

**Speed tolerances.** Speeds are subject to the following tolerances :—

(a) With shunt characteristics (above 3 h.p.).

Tolerance 5 per cent. above or below the speed given.

(b) With series characteristics.

Tolerance  $7\frac{1}{2}$  per cent. above or below the speed given.

**“ WITTON ”**  
**DIRECT CURRENT MOTORS**  
**SHUNT WOUND**

**PRICES 1-4 H.P.**

The stock item numbers for motors enable reference to be made to the G.E.C. Witton Monthly Stock List.

For particulars of starters recommended below and of alternative types refer to pages 740 and 742 of this catalogue.

MOTOR PARTICULARS.													STARTER PARTICULARS.					
H.P.	Volts.	Speed R.P.M.	Frame Size.	Stock Item.	Price.			Extras.					Faceplate Starter Semi-enclosed. 1 or 2 releases.					
								Price Slide Rails.		Pulley.								
					£	s.	d.	£	s.	d.	dia. face	s.	d.	Cat. No.	Price.			
1	220	720	C4	M251	16	19	0	13	7	4½	3	10	6	{ X 10115 X 10165 X 10115 X 10165 }	1	4	0	
	220	500	C5	M253	19	13	0	15	9	5	4	12	6					
1½	220	1400	C3	M257	15	13	0	12	7	4½	3	10	6	{ X 10116 X 10166 X 10129 X 10179 }	1	6	0	
	440	1500	C3	M259	15	8	0	12	4	4½	3	10	6					
2	220	1050	C4	M263	18	1	0	14	6	4½	3	10	6	{ X 10116 X 10166 X 10116 X 10166 X 10116 X 10166 X 10129 X 10179 }	1	6	0	
	220	720	C5	M265	20	19	0	16	10	5	4	12	6					
	220	520	C6	M267	26	5	0	1	1	0	6	4½	15					0
	440	1150	C4	M269	17	12	0	14	1	4½	3	10	6					
2½	220	1400	C4	M273	17	13	0	14	2	4½	3	10	6	{ X 10117 X 10167 }	1	8	3	
3	220	1550	C4	M277	18	3	0	14	7	4½	3	10	6	{ X 10117 X 10167 X 10117 X 10167 X 10117 X 10167 X 10130 X 10180 X 10130 X 10180 }	1	8	3	
	220	1000	C5	M279	20	17	0	16	9	5	4	12	6					
	220	750	C6	M281	23	17	0	19	1	6	4½	15	0					
	440	1550	C4	M283	18	3	0	14	7	4½	3	10	6					
	440	1000	C5	M285	20	17	0	16	9	5	4	12	6					
4	220	1250	C5	M289	21	10	0	17	3	5	4	12	6	{ X 10118 X 10168 X 10131 X 10181 }	1	19	0	
	440	1250	C5	M293	21	10	0	17	3	5	4	12	6					

*For points to be noted when ordering, see page 730.*

## “ WITTON ” DIRECT CURRENT MOTORS SHUNT WOUND

**PRICES      5-12 H.P.**

The stock item numbers for motors enable reference to be made to the G.E.C. Witton Monthly Stock List.

For particulars of starters recommended below and of alternative types refer to pages 740 to 742 of this catalogue.

MOTOR PARTICULARS.														STARTER PARTICULARS.				
H. P.	Volts.	Speed R.P.M.	Frame Size.	Stock Item.	Price.			Price Slide Rails.			Extras.			Faceplate Starter Semi-enclosed. 1 or 2 releases.	Cat. No.	Price.		
											Pulley.							
					£	s.	d.	£	s.	d.	Size ins.	Price.	£				s.	d.
5	220	1500	C5	M301	21	16	0	17	6		5 × 4	12	6	{ X 10118 X 10168 X 10118 X 10168 X 10132 X 10182 X 10132 X 10182 }	2	4	6	
	220	1000	C6	M303	26	5	0	1	1	0	6 × 4½	15	0					
	440	1500	C5	M305	21	16	0	17	6		5 × 4	12	6					
	440	1000	C6	M307	26	5	0	1	1	0	6 × 4½	15	0					
6	220	1250	C6	M311	25	18	0	1	0	9	6 × 4½	15	0	{ X 10119 X 10169 X 10119 X 10169 X 10133 X 10183 X 10133 X 10183 }	2	16	6	
	220	880	C7B	M312	31	9	0	1	5	2	6 × 4½	15	0					
	440	1250	C6	M315	25	18	0	1	0	9	6 × 4½	15	0					
	440	880	C7B	M316	31	9	0	1	5	2	6 × 4½	15	0					
7½	220	1500	C6	M321	26	5	0	1	1	0	6 × 4½	15	0	{ X 10119 X 10169 X 10133 X 10183 }	3	0	9	
	440	1500	C6	M323	26	5	0	1	1	0	6 × 4½	15	0					
8	220	1000	C7B	M332	33	15	0	1	7	0	6 × 4½	15	0	{ X 10120 X 10170 X 10134 X 10184 }	3	0	9	
	440	1000	C7B	M334	33	15	0	1	7	0	6 × 4½	15	0					
10	220	825	C8C	M338	43	2	0	1	14	6	10 × 7	1	7	0	{ X 10120 X 10170 X 10134 X 10184 }	3	6	0
	440	750	C8C	M340	44	13	0	1	15	9	10 × 7	1	7	0				
12	220	825	C8C	M344	48	16	6	1	18	0	10 × 7	1	7	0	{ X 10171 X 10135 X 10185 }	3	17	0
	440	825	C8C	M348	47	9	0	1	18	0	10 × 7	1	7	0				

*For points to be noted when ordering, see page 730.*

## “ WITTON ” DIRECT CURRENT MOTORS

SHUNT WOUND

PRICES 14-50 H.P.

The stock item numbers for motors enable reference to be made to the G.E.C. Witton Monthly Stock List.

For particulars of starters recommended below and of alternative types refer to pages 740 and 741 of this catalogue.

MOTOR PARTICULARS.														STARTER PARTICULARS.					
H.P.	Volts.	Speed R.P.M.	Frame Size.	Stock Item.	Price.			Extras.					Faceplate Starter Semi-enclosed. 1 or 2 releases.						
								Pulley.											
					£	s.	d.	£	s.	d.	Size ins.	Price.		Cat. No.	Price.				
								d.	dia. face					£	s.	d.			
14	220	1000	C8C	M352	47	6	0	1	16	7	10	7	1	7	0	X 10171 X 10171 X 10135 X 10185 X 10135 X 10185	4	5	6
	220	600	C10C	M354	64	9	0	2	10	4	12	7	1	12	0				
	440	1000	C8C	M356	45	14	0	1	16	7	10	7	1	7	0				
	440	600	C10C	M358	62	17	0	2	10	4	12	7	1	12	0				
17½	220	770	C10C	M362	62	18	0	2	8	9	12	7	1	12	0	X 10122 X 10172 X 10136 X 10186 X 10136 X 10186	5	9	6
	440	1300	C8C	M364	45	5	0	1	16	3	10	7	1	7	0				
	440	770	C10C	M366	60	18	0	2	8	9	12	7	1	12	0				
20	220	830	C10C	M370	64	12	6	2	9	11	12	7	1	12	0	X 10122 X 10172 X 10122 X 10172 X 10136 X 10186 X 10136 X 10186 X 10136 X 10186	5	19	0
	220	580	C10E	M372	80	11	6	3	2	8	12	7	1	12	0				
	440	1050	C8E	M376	53	18	0	2	3	2	10	7	1	7	0				
	440	830	C10C	M378	62	7	0	2	9	11	12	7	1	12	0				
	440	580	C10E	M380	78	6	0	3	2	8	12	7	1	12	0				
27	440	1050	C10C	M390	64	12	0	2	11	9	12	7	1	12	0	X 10188 X 10188	7	14	9
	440	800	C10E	M394	75	8	0	3	0	4	12	7	1	12	0				
30	220	725	C13	M397	87	2	6	3	7	0	12	7	1	12	0	X 10174 X 10188	7	14	9
	440	725	C13	M399	83	14	0	3	7	0	12	7	1	12	0				
35	220	1250	C10C	M400	71	12	0	2	14	3	12	7	1	12	0	X 10175 X 10175 X 10189	10	14	3
	220	950	C10E	M402	83	6	0	3	3	6	12	7	1	12	0				
	440	950	C10E	M406	79	6	0	3	3	6	12	7	1	12	0				
40	440	1200	C10E	M408	73	8	0	2	18	9	12	7	1	12	0	X 10189 X 10189	10	14	3
	440	770	C14	M409	97	7	0	3	17	11	14	9	2	4	6				
50	440	760	C15	M417	109	2	0	4	7	4	17	9	2	12	6	X 10190	13	2	9

For points to be noted when ordering, see page 730

## “ WITTON ” A.C. AND D.C. MOTORS 1-50 H.P.

### FULL LOAD CURRENTS (APPROXIMATE ONLY)

For 3-phase **A.C. motors** the full load currents are based on average efficiency and power factor.

For **D.C. motors** the full load currents are based on average efficiency.

H.P.	A.C. MOTORS.	D.C. MOTORS.	
	Amperes.	Amperes.	
	400/440 volts.	220 volts.	440 volts.
1	2	5	2.5
2	3.5	10	5
3	5	13	6.5
4	7	17	8.5
5	8	20	10
7½	12	32	16
10	15	42	21
12½	18	52	26
15	21	60	30
17½	24	70	35
20	27	80	40
25	33	100	50
30	40	120	60
35	47	140	70
40	55	160	80
45	60	180	90
50	65	200	100

### LARGE “ WITTON ” MOTORS

In addition to the motors listed in the foregoing pages the G.E.C. construct large motors for all requirements of modern industry.

Alternating current motors are built in all the usual types, induction, self-starting synchronous and synchronous-induction.

Direct current motors are built to standard designs and, like the A.C. types, are both electrically and mechanically capable of meeting all the demands of the class of service for which they are intended.

All “Witton” motors comply strictly with British Standard Specification No. 168/1926 or No. 169/1925.

Quotations for large motors on request.

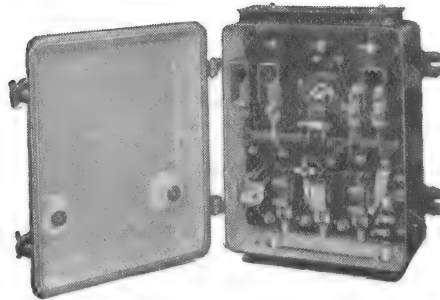
## ALTERNATING CURRENT MOTOR STARTERS FOR SQUIRREL CAGE MOTORS

### DIRECT-TO-LINE STARTERS

(Contactor Pattern).

### SPECIFICATION 1-30 H.P.

For starting three-phase squirrel cage motors by connecting them direct to the supply by the pressure of a push button.



G.E.C. Automatic Direct-to-line Starter, Size 2.

**Construction.** The starter comprises a 4-pole contactor and three time limit overload relays of the magnetic or thermal type. Push buttons for starting and stopping the motor project through the front of the case. Additional start and stop push buttons can be connected for remote control.

The overload relays are of the hand re-setting type, re-setting being effected by pressing the "stop" push button.

### PRICES

H.P.	Volts.	3 Thermal Overloads.			3 Magnetic Overloads.		
		Size.	Cat. No.	Price.	Size.	Cat. No.	Price.
1 1½ 2 3 4 5	400/440	0	X 10971	2 5 6	1	X 10714	2 17 6
			X 10971A	2 5 6		—	—
			X 10972	2 5 6		X 10715	2 17 6
			X 10973	2 5 6		X 10716	2 17 6
			X 10973A	2 5 6		—	—
			X 10974	2 5 6		X 10717	2 17 6
7½ 10 12½ 15	400/440	1	X 10876	2 19 6	1	X 10718	3 11 6
			X 10877	3 11 6		X 10719	4 3 6
			X 10878	5 1 9		X 10734	5 1 9
			X 10879	5 1 9		X 10735	5 1 9
20 25 30	400/440	2	—	—	2	X 10736	5 8 3
			—	—		X 10737	5 8 3
			—	—		X 10738	13 9 3

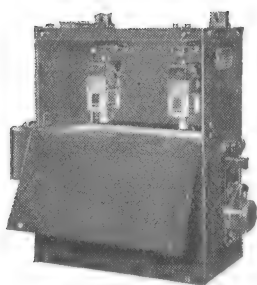
For further details see Technical Description No. 314, available on application.

# G.E.C.

## ALTERNATING CURRENT MOTOR STARTERS FOR SQUIRREL CAGE MOTORS

### STAR-DELTA STARTERS

(Hand-operated pattern with automatic features)



G.E.C. Air-break Star-Delta Starter, Size 1, Interior.

### SPECIFICATION

### 3-50 H.P.

For starting squirrel cage motors up to 50 h.p. at 550 volts starting up against not more than one-third full load.

Starters are totally enclosed and are arranged for wall mounting.

The drum switch is mounted on a square bakelised shaft. Two sets of fixed contacts are provided, which, in the starting position connect the motor to the supply in star, and in the running position alter the connection to delta. A sequence device ensures correct operation. No volt and two or three time limit overloads are fitted. Overloads are not in circuit in the starting position.

Cable entries are provided with wood bushes, but starters can be drilled for conduit without extra cost.

### PRICES

H.P.	Volts.	Size.	Pattern.	No-volt & 2 O/L		No-volt & 3 O/L	
				Cat. No.	Price.	Cat. No.	Price.
3	400/500	0	Air-break.	X 10942	£ 2 14 3	X 10962	£ 2 18 6
5		0		X 10943	2 14 3	X 10963	2 18 6
7½		0		X 10944	3 18 0	X 10964	4 4 6
10		0		X 10945	3 18 0	X 10965	4 4 6
12½		1		X 10946	4 14 3	X 10966	5 1 9
15		1		X 10947	4 14 3	X 10967	5 1 9
20		1		X 10948	5 1 9	X 10968	5 8 3
25		1		X 10949	5 1 9	X 10969	5 8 3
3	400/500	0A	Oil-immersed.	X 11000	5 12 6	X 11020	6 3 3
5		0A		X 11001	5 12 6	X 11021	6 3 3
7½		0A		X 11002	5 12 6	X 11022	6 3 3
10		0A		X 11003	5 12 6	X 11023	6 3 3
12½		0A		X 11004	7 10 6	X 11024	8 12 0
15		0A		X 11005	7 10 6	X 11025	8 12 0
20		2		X 11006	7 10 6	X 11026	8 12 0
25		2		X 11007	7 10 6	X 11027	8 12 0
30	400/500	2		X 11008	12 7 9	X 11028	13 9 3
40		2		X 11009	12 7 9	X 11029	13 9 3
50		2		X 11010	12 7 9	X 11030	13 9 3

**Extra for Oil.**—Size OA, 1 gal., 3s. 3d., Size 2, 3 gals. 9s. 9d.

For further details see *Technical Description*, No. 206, available on application.





# G.E.C.

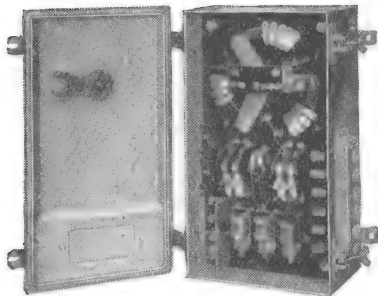
## ALTERNATING CURRENT MOTOR STARTERS FOR SLIP RING MOTORS

### AIR-BREAK ROTOR STARTING PANELS

(Hand-operated with automatic features)

#### SPECIFICATION

#### 5-30 H.P.



G.E.C. Air-break rotor starting panel.

For starting 3-phase slip ring induction motors up to 30 h.p. at 440 volts.

The starting panel comprises a 4-pole stator contactor, two or three magnetic overload relays, fitted with time limit dash-pots, and an air break face-plate rotor starter. The equipment is mounted on a slate panel at the back of which the rotor starting resistance is fitted. The panel is enclosed in a mild steel case provided with a cast iron cover on which an instruction plate is mounted.

The rotor starter is electrically interlocked with the contactor so that it is impossible to leave any of the starting resistance in circuit, or to start the motor unless

the handwheel is in the "off" position. The contactor is actuated by means of a push-button built into the centre of the starting handwheel.

Wood bushes are provided, but arrangements can be made for conduit if required.

#### PRICES

H.P. of Motor.	Speed of Motor.	Volts.	Size.	Cat. No.	Price with 3 O/L.	Reduction in price for starters with 2 O/L.
	R.P.M.				£ s. d.	s. d.
5	1,400	400/440	2	X 10994	9 18 0	11 10
5	930			X 10994A		
7½	410			X 10985		
7½	930			X 10985A	10 2 6	11 10
7½	700			X 10985B		
10	1,410			X 10986	10 8 9	11 10
10	700			X 10986A		
12½	1,410	400/440	3	X 10987	10 14 6	11 10
12½	925			X 10987A		
15	945			X 10995	11 0 9	11 10
15	700			X 10995A		
20	1,420			X 10996	13 11 6	11 10
20	945			X 10996A		
20	705			X 10996B	14 18 6	11 10
25	950			X 10997		
25	705			X 10997A	15 16 0	11 10
30	950			X 10998		
30	710			X 10998A		

For further details see Technical Description No. 318, available on application.

## ALTERNATING CURRENT MOTOR STARTERS FOR SLIP RING MOTORS

### OIL-IMMERSED ROTOR STARTING PANELS

(Hand-operated with automatic features)

#### SPECIFICATION 10-50 H.P.

The panels consist of an oil immersed circuit breaker and rotor starter, the oil circuit breaker being mounted on a suitable framework.

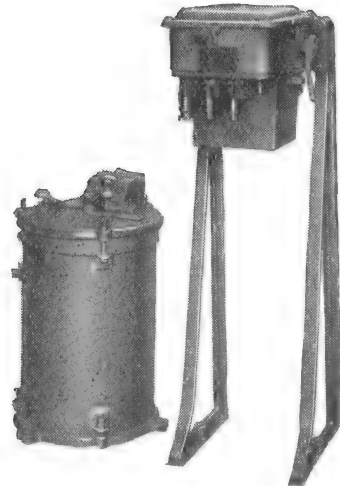
An electrical interlock is provided so that the circuit breaker cannot be operated unless the starter handle is in the "off" position.

Wood bushes are provided for cable entries unless otherwise specified.

**Oil Circuit Breaker.** The oil circuit breaker is of the triple pole type and controls the stator circuit. It is equipped with a no-volt release and two or three overload releases with time limit dash-pots.

**Rotor Starter.** Rotor starters are suitable for motors starting against full load torque three times in quick succession with intervals of fifteen times the starting period, without the temperature of the oil exceeding 150° F.

The tank is made of mild steel, and is provided with a tightly fitting cover. An inspection aperture enables the tank to be filled without removing the cables.



Oil-immersed Rotor Starting Panel.

#### PRICES

H.P.	Speed of Motor.	Volts.	Starting period secs.	Size.	Cat. No.	Price.					
						No volt and 3 O/L.			Reduction in price for starters with 2 O/L.		
						£	s.	d.	£	s.	d.
10	R.P.M.	400/440	20	2	X 10800	16	8	9	0	17	3
15	—				X 10801	17	16	9	0	17	3
20	—				X 10802	17	16	9	0	17	3
25	—				X 10803	17	16	9	0	17	3
30	—				X 10804	18	17	6	0	19	3
35	{ 2,900 1,440 720 }	400/440	35	3	X 10805	22	14	6	1	3	9
40	950				X 10805A						
45	1,445				X 10805B						
45	725				X 10806						
50	575				X 10807						
		400/440	35	3	X 10807A	23	7	3	1	3	9
					X 10808	23	7	3	1	3	9

**Extra for Oil.**—Size, 2, 4½ gals., 14s. 8d. ; Size 3, 9½ gals., 30s. 11d.

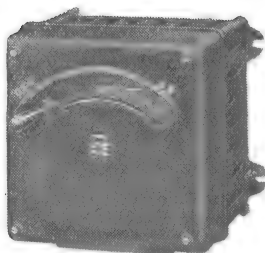
For further details see Technical Description No. 228, available on application.



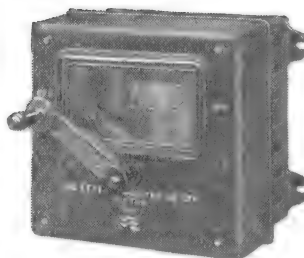
# DIRECT CURRENT MOTOR STARTERS

## FACE PLATE PATTERN

### SEMI-ENCLOSED AND ENCLOSED COVER TYPES



G.E.C. Semi-enclosed Starter,  
Size 2.



G.E.C. Starter, with enclosed  
cover, Size 2.

The starters will start up motors against full load torque with a starting current equal to the full load current. For ordinary duty the starting period should be 5 seconds plus half a second for each 1 h.p. rating. The starter is capable of starting the motor five times in succession without injury, with an interval between successive starts of 15 times the starting period.

## PRICES 1-4 H.P.

H.P.	Volts.	Size	With no-volt release.				With no-volt release and overload.			
			Semi-enclosed.		Enclosed cover.		Semi-enclosed.		Enclosed cover.	
			Cat. No.	Price.	Cat. No.	Price.	Cat. No.	Price.	Cat. No.	Price.
				£ s. d.		£ s. d.		£ s. d.		£ s. d.
1	200/250	1	X 10115	1 4 0	X 10215	1 7 3	X 10165	1 4 0	X 10265	1 7 3
1	420/500	1	X 10128	1 4 0	X 10228	1 7 3	X 10178	1 4 0	X 10278	1 7 3
2	200/250	1	X 10116	1 6 0	X 10216	1 10 6	X 10166	1 6 0	X 10266	1 10 6
2	420/500	1	X 10129	1 6 0	X 10229	1 10 6	X 10179	1 6 0	X 10279	1 10 6
3	200/250	1	X 10117	1 8 3	X 10217	1 13 9	X 10167	1 8 3	X 10267	1 13 9
3	420/500	1	X 10130	1 8 3	X 10230	1 13 9	X 10180	1 8 3	X 10280	1 13 9
4	200/250	2	X 10118	1 19 0	X 10218	2 5 6	X 10168	1 19 0	X 10268	2 5 6
4	420/500	1	X 10131	1 19 0	X 10231	2 5 6	X 10181	1 19 0	X 10281	2 5 6

# DIRECT CURRENT MOTOR STARTERS

FACE PLATE PATTERN  
SEMI-ENCLOSED AND ENCLOSED TYPES

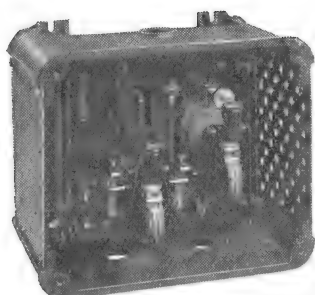
**PRICES 5-50 H.P.**

H.P.	Volts.	Size	With no-volt release.						With no-volt release and overload.														
			Semi-enclosed.			Enclosed cover.			Semi-enclosed.			Enclosed cover.											
			Cat. No.	Price.		Cat. No.	Price.		Cat. No.	Price.		Cat. No.	Price.										
				£	s.	d.		£	s.	d.		£	s.	d.		£	s.	d.					
5	200	250	2	X	10118	2	4	6	X	10218	2	7	9	X	10168	2	4	6	X	10268	2	7	9
5	420	500	2	X	10132	2	4	6	X	10232	2	7	9	X	10182	2	4	6	X	10282	2	7	9
6	200	250	2	X	10119	2	16	6	X	10219	3	3	0	X	10169	2	16	6	X	10269	3	3	0
6	420	500	2	X	10133	2	16	6	X	10233	3	3	0	X	10183	2	16	6	X	10283	3	3	0
7½	200	250	2	X	10119	3	0	9	X	10219	3	17	0	X	10169	3	0	9	X	10269	3	17	0
7½	420	500	2	X	10133	3	0	9	X	10233	3	17	0	X	10183	3	0	9	X	10283	3	17	0
8	200	250	3	X	10120	3	0	9	X	10220	3	17	0	X	10170	3	0	9	X	10270	3	17	0
8	420	500	3	X	10134	3	0	9	X	10234	3	17	0	X	10184	3	0	9	X	10284	3	17	0
9	200	250	3	X	10120	3	1	9	X	10220	3	17	0	X	10170	3	1	9	X	10270	3	17	0
9	420	500	3	X	10134	3	1	9	X	10234	3	17	0	X	10184	3	1	9	X	10284	3	17	0
10	200	250	3	X	10120	3	6	0	X	10220	3	17	0	X	10170	3	6	0	X	10270	3	17	0
10	420	500	3	X	10134	3	6	0	X	10234	3	17	0	X	10184	3	6	0	X	10284	3	17	0
12½	200	250	3	X	10121	3	17	0	X	10221	4	11	0	X	10171	3	17	0	X	10271	4	11	0
12½	420	500	3	X	10135	3	17	0	X	10235	4	11	0	X	10185	3	17	0	X	10285	4	11	0
15	200	250	3	X	10121	4	5	6	X	10221	5	5	0	X	10171	4	5	6	X	10271	5	5	0
15	420	500	3	X	10135	4	5	6	X	10235	5	5	0	X	10185	4	5	6	X	10285	5	5	0
17½	200	250	3	X	10122	5	9	6	X	10222	6	11	0	X	10172	5	9	6	X	10272	6	11	0
17½	420	500	3	X	10136	5	9	6	X	10236	6	11	0	X	10186	5	9	6	X	10286	6	11	0
20	200	250	3	X	10122	5	19	0	X	10222	6	11	0	X	10172	5	19	0	X	10272	6	11	0
20	420	500	3	X	10136	5	19	0	X	10236	6	11	0	X	10186	5	19	0	X	10286	6	11	0
22½	200	250	3	X	10123	6	17	6	X	10223	8	2	3	X	10173	6	17	6	X	10273	8	2	3
22½	420	500	3	X	10137	6	17	6	X	10237	8	2	3	X	10187	6	17	6	X	10287	8	2	3
25	200	250	3	X	10123	7	0	9	X	10223	8	2	3	X	10173	7	0	9	X	10273	8	2	3
25	420	500	3	X	10137	7	0	9	X	10237	8	2	3	X	10187	7	0	9	X	10287	8	2	3
30	200/250	4S or 3A	X	10124	7	14	9	X	10224	9	9	3	X	10174	7	14	9	X	10274	9	9	3	
30	420	500	3A	X	10138	7	14	9	X	10238	9	9	3	X	10188	7	14	9	X	10288	9	9	3
40	200	250	4S	X	10125	10	14	3	X	10225	12	5	6	X	10175	10	14	3	X	10275	12	5	6
40	420	500	4S	X	10139	10	14	3	X	10239	12	5	6	X	10189	10	14	3	X	10289	12	5	6
50	200	250	5S	X	10126	13	2	9	X	10226	14	14	3	X	10176	13	2	9	X	10276	14	14	3
50	420	500	4S	X	10140	13	2	9	X	10240	14	14	3	X	10190	13	2	9	X	10290	14	14	3



# DIRECT CURRENT MOTOR STARTERS

## COUNTER E.M.F. STARTER



Counter E.M.F. Starter, Size 2.

### SPECIFICATION

1-5 H.P.

The starter consists of a line contactor and an accelerator contactor, together with a resistance mounted on an insulating base, the whole being contained in a ventilated box. Two patterns are made—a light duty pattern (Size 1) and (for the higher horse-powers) a heavy duty pattern (Size 2). In Size 2 the line contactor is fitted with a magnetic blow-out and is electrically interlocked with the accelerator contactor. "Start" and "Stop" push buttons are not embodied in the starter.

Since the coils of the line contactor are shunt operated, the starter functions as a no-volt release. For overload protection, fuses or an overload circuit breaker must be used, as overload trips cannot be supplied on the starter.

The starter is normally rated to start against full load torque, but in certain cases it is capable of starting against  $1\frac{1}{2} \times$  full load torque (approx.).

The case is drilled for conduit at top and bottom.

### OPERATION

When the "start" push-button is pressed, the line contactor connects the motor across the line through the resistance. When the motor speeds up, the accelerator contactor comes into operation, short-circuiting the resistance and throwing the motor directly across the line. To stop the motor, the "stop" push-button is pressed.

With pilot or float switch control, a single pole switch only is necessary.

### PRICES

H.P.	Voltage.	Size.	Cat. No.	Price.
				£ s. d.
1/2	200/250	1	X 10675	2 11 3
3	200/250	2	X 10676	4 4 3
4/5	200/250	2	X 10677	4 4 3
1/2	400/480	1	X 10678	3 0 6
3	400/480	1	X 10679	3 0 6
4*	400/480	1	X 10680	3 0 6
4	400/480	2	X 10688	4 8 9
5	400/480	2	X 10689	4 8 9

\* Not suitable for Pilot or Float Switch Control. Use X 10688.

# **“WITTON” FRACTIONAL H.P. MOTORS**

## **INTRODUCTION**

WITTON fractional horse-power motors are manufactured throughout at the Engineering Works of the G.E.C., at Witton, near Birmingham. They are designed and built on sound engineering principles and are specially suitable for all types of domestic and industrial drives where **Reliability, Silence, Quality** and **Efficiency** are required.

WITTON fractional horse-power motors are rated in accordance with British Standard Specification No. 170 (1926). In addition, each individual motor is tested under the conditions contained in the above Specification, and a complete record of the test is kept and is available on request.

## **SALIENT FEATURES**

**Liberal rating.**

**Robust construction.**

**High starting torque.**

**Bearings liberally designed.**

**All component parts made to gauge and interchangeable.**

**Black enamel finish, sprayed and stoved.**

**Built to comply with B.S.S. No. 170 (1926).**

**Interchangeability—d.c., split-phase, repulsion-start induction and three-phase motors of corresponding ratings are mechanically interchangeable as regards fixing centres.**

The field of application of WITTON fractional horse-power motors is very extensive. Many thousands are in use every day for driving all types of domestic, industrial and amusement machines ; a few typical examples are illustrated on pages 744 and 745.

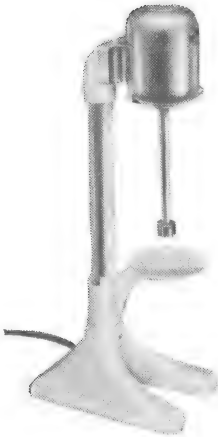
Comprehensive stocks of all types and ratings are carried at G.E.C. main branches, ensuring prompt delivery.

The experience and advice of G.E.C. specialists in fractional horse-power applications are placed at the disposal of customers to assist in their particular problems.

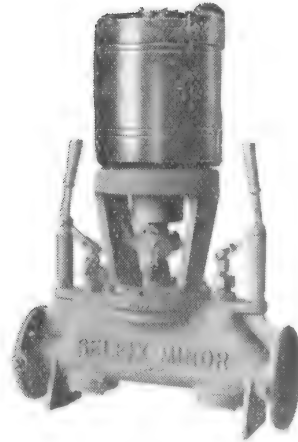
***S.E.C.***

**“WITTON” FRACTIONAL H.P.  
MOTORS**

**TYPICAL APPLICATIONS**



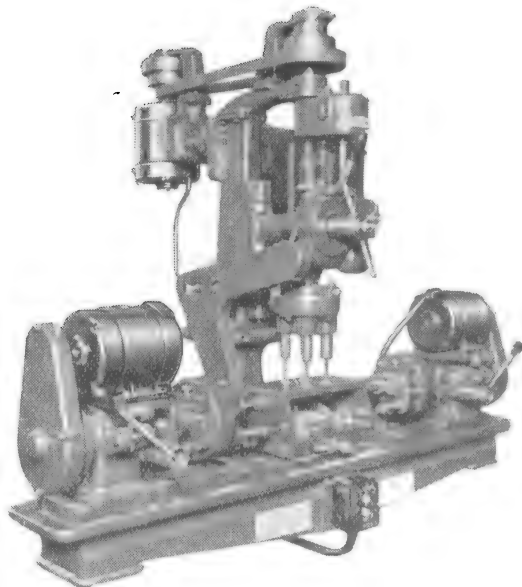
**Drink mixer.**



**Centrifugal pump.**



**Revolving display table.**



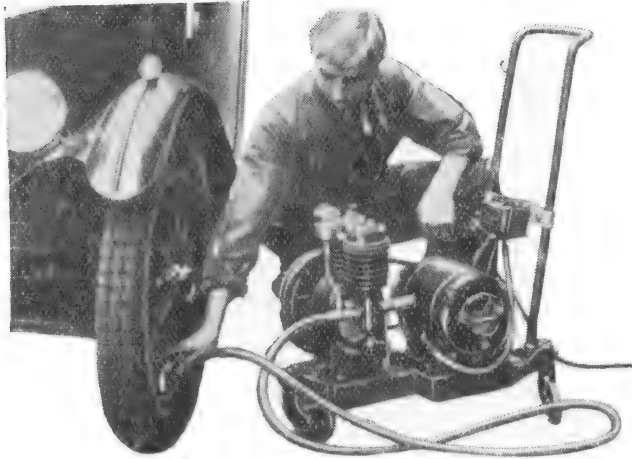
**Multiple drilling machine.**



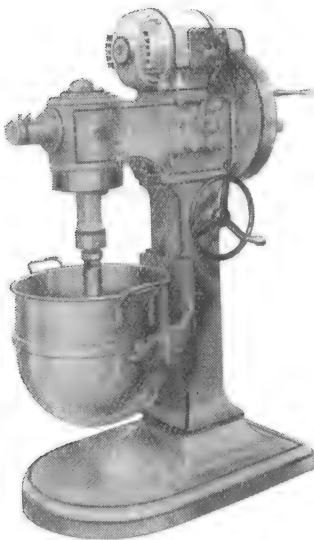
**G.E.C.**

## **“WITTON” FRACTIONAL H.P. MOTORS**

### **TYPICAL APPLICATIONS**



Portable compressor.



Dough mixing machine.



Circulating pump and load control gear for  
G.E.C. electrode boiler installation.

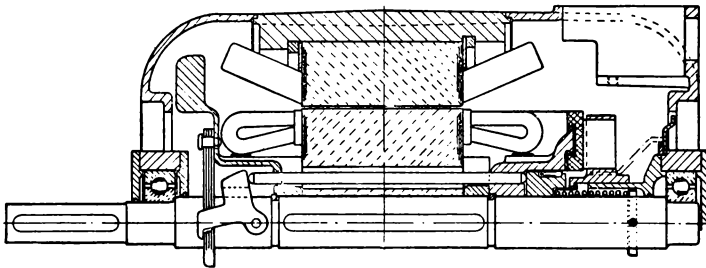


## “WITTON” FRACTIONAL H.P. MOTORS

### REPULSION-START INDUCTION MOTORS

WITTON repulsion-start induction motors, are suitable for all applications where high starting torque and low starting current are required. Frame size SR55,  $\frac{1}{4}$  h.p., is specially designed for refrigeration work, where silent running is particularly necessary.

**Frame.**—Drip-proof and well-ventilated (except SR55, which is cradle-mounted and totally enclosed ; and SR51 and SR61, which have no fans.



Diagrammatic section through G.E.C. repulsion-start induction motor showing brush-lifting and short-circuiting gear.

**Windings.**—Series parallel connections are provided, enabling two separate voltage ranges to be covered by one winding.

**Commutator.**—Radial type.

**Brush-lifting gear.**—The brush-lifting gear ensures that the brushes are only in contact with the commutator during the period of starting. As soon as the motor reaches a speed of approximately 1,200 r.p.m., the brushes are automatically withdrawn from the commutator.

**Bearings.**—The motors can be supplied with either wad-lubricated bearings or ball bearings, as required, except SR41/55.

### SPECIAL FEATURES

These motors possess many special advantages, which ensure faultless operation and reliability. These include :—

**High power factor.**

**High starting torque.**—2 to  $2\frac{1}{2}$  times full load torque with 2 to  $2\frac{1}{2}$  times full load current with direct to line starting.

**Commutator of hard drawn copper segments** (*not cast*).

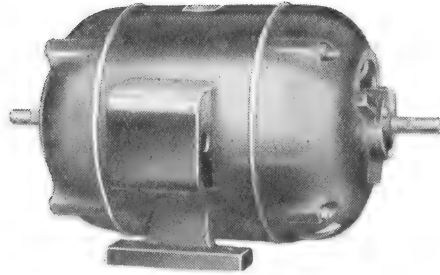
**Bearings liberally designed.**

**Silent operation and minimum brush wear** due to brush-lifting gear.

**S.E.C.**

# “ WITTON ” FRACTIONAL H.P. MOTORS

## REPULSION-START INDUCTION MOTORS



V 755/775/795

### SINGLE-PHASE.

100/250 volts, 50 cycles.

B.H.P.	Speed.	Bearings.	Frame Size.	Weight (approx.)		Catalogue No.			Price each.	Pulley	
						Volts 100/200	Volts 110/115 220/230	Volts 120/125 240/250		Size	Price each.
	r.p.m.			lb.	kilos.				£ s. d.		s. d.
	1440	Wad*	SR41	25	12	V 751	V 771	V 791	4 10 0	{ Grooved } 2½" dia.	4 3
	960		SR51	42	19	V 753	V 773	V 793	5 10 3	2½" dia. } 1½" face	5 0
	1440		SR51	42	19	V 755	V 775	V 795	5 5 0		
	2800		SR51	42	19	V 754	V 774	V 794	5 5 0		
	960		SR54	45	20.5	V 801	V 821	V 841	6 6 0	3½" dia. } 2" face	6 9
	1440		SR54	45	20.5	V 803	V 823	V 843	6 0 0		
	1440		SR55	43	19.8	V 759	V 779	V 799	6 0 0		
	960		SR61	51	23	V 805	V 825	V 845	7 2 3	3½" dia. } 2" face	6 9
	1440		SR61	51	23	V 807	V 827	V 847	6 15 0		
	2800		SR61	51	23	V 808	V 828	V 848	6 15 0		
	960		SR71	59	26.8	V 810	V 830	V 850	7 17 6	2" face	
	1440		SR71	59	26.8	V 811	V 831	V 851	7 10 0		
	2800		SR71	59	26.8	V 812	V 832	V 852	7 10 0		

\*Ball bearings can be supplied to all frames (except SR41 and SR55) without extra charge.

When ball bearings are required add suffix letter "B" after the Catalogue Number, e.g., V 755B.

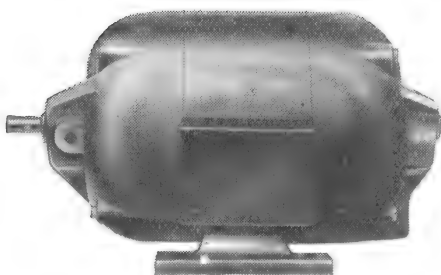
**Slide rails.**—Frame sizes SR51, SR54, SR61 and SR71, 7s. 9d. per set.

*When ordering, please specify Catalogue Number, Voltage and Frequency.*

# G.E.C.

## "WITTON" FRACTIONAL H.P. MOTORS

### SINGLE AND THREE PHASE INDUCTION MOTORS



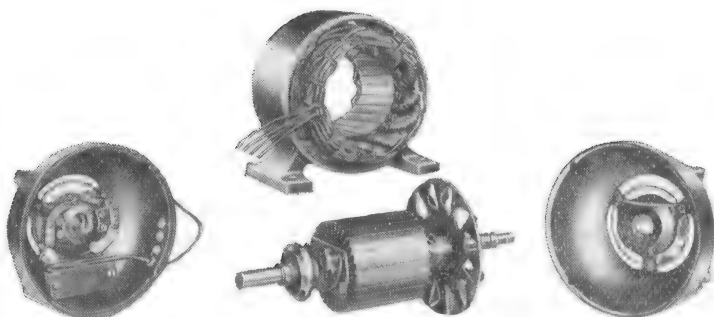
V 631

#### SINGLE-PHASE

WITTON single-phase motors, are of the split-phase induction type. The smallest size, S25, is similar to the d.c. type described on page 750, except that a series winding is provided.

**Frame.**—Drip-proof and fan-ventilated.

**Operation.**—The motors are provided with an automatic centrifugal switch mounted on the rotor. When the motor reaches a predetermined speed this switch automatically cuts out the starting winding, and the motor then runs as a squirrel cage induction machine. This feature enables the motor to be started by direct-to-line switching with an ordinary switch.



V 631. Dismantled view.

**Reversibility.**—Four leads are brought out, allowing for easy reversing by means of a change-over switch.

**Starting torque.**—The motors are suitable for starting against 100 per cent full load torque.

#### THREE-PHASE

WITTON three-phase motors, are of the squirrel cage induction type.

**Frame.**—Drip-proof and fan-ventilated.

**Windings**—The stators are wound with high conductivity copper wire and are provided with ample slot insulation. The liberal rating of all sizes ensures reasonable temperature rise and long life. All six leads are brought out to enable motors to be connected either Delta for 230/250 volts or Star for 400/440 volts.

**Starting torque.**—The motors are suitable for starting against 200 per cent. full load torque, with direct-to-line starting.

# **“ WITTON ” FRACTIONAL H.P. MOTORS** **SINGLE AND THREE PHASE INDUCTION MOTORS**

**SINGLE-PHASE.**  
100/250 volts, 50 cycles.

B.H.P.	Speed.	Bear-ings.	Frame Size.	Weight (approx.)	Catalogue No.				Price each		Pulley.	
					Volts 100/115	Volts 200	Volts 220/230	Volts 240/250			Size	Price each.
	r.p.m.			lb. kilos.					£	s. d.		s. d.
$\frac{1}{20}$	2000	Wick	S25	14 6.34	V 551	V571*	*	V591*	3	1 8	Grooved 1½" dia.	Included
$\frac{1}{20}$	1440	Wad	SA27	14 6.34	V 552	V 572	V 582	V 592	3	5 0	Grooved 1½" dia.	2 10
$\frac{1}{20}$	2800		SA27	14 6.34	V 553	V 573	V 583	V 593	3	5 0	Grooved 1½" dia.	4 3
$\frac{1}{20}$	1440		SA31	21 9.54	V 555	V 575	V 595	V 615	3	8 4	Grooved 2½" dia.	5 0
$\frac{1}{20}$	2800		SA31	21 9.54	V 556	V 576	V 596	V 616	3	8 4	2½" dia.	6 9
$\frac{1}{20}$	960		SA49	29 13.1	V 560	V 586	V 599	V 627	4	0 10	2½" dia.	5 0
$\frac{1}{20}$	1440		SA49	29 13.1	V 561	V 587	V 600	V 628	3	17 0	1½" face	6 9
$\frac{1}{20}$	2800		SA49	29 13.1	V 562	V 588	V 601	V 629	3	17 0	3½" dia.	6 9
$\frac{1}{20}$	960		SA51	37 17	V 605	V 625	V 645	V 665	4	12 9	2" face	
$\frac{1}{20}$	1440		SA51	37 17	V 603	V 623	V 643	V 663	4	8 4		
$\frac{1}{20}$	2800		SA51	37 17	V 604	V 624	V 644	V 664	4	8 4		
$\frac{1}{20}$	960	Wad†	SA61	59 26.8	V 612	V 632	V 652	V 672	5	15 6		
$\frac{1}{20}$	1440		SA61	59 26.8	V 611	V 631	V 651	V 671	5	10 0		
$\frac{1}{20}$	2800		SA61	59 26.8	V 613	V 633	V 653	V 673	5	10 0		

\*This frame is series wound for 100/115, 200/225 and 230/250 volts.

†Ball bearings can be supplied without extra charge. When ball bearings are required add suffix letter " B " after the Catalogue Number, e.g., V 603B.

## **THREE-PHASE** 230/250 volts or 400/440 volts, 50 cycles.

B.H.P.	Speed.	Bearings.	Frame Size.	Weight (approx.)	Catalogue No.	Price each.		Pulley.	
								Size.	Price each.
	r.p.m.			lb. kilos.		£	s. d.		s. d.
$\frac{1}{15}$	1440	Wad	SA27	14 6.34	V 690	3	5 0	Grooved 1½" dia.	2 10
$\frac{1}{15}$	2800		SA27	14 6.34	V 691	3	5 0	Grooved 1½" dia.	4 3
$\frac{1}{15}$	1440		SA33	21 9.54	V 692	3	8 4	Grooved 2½" dia.	5 0
$\frac{1}{15}$	2800		SA33	21 9.54	V 693	3	8 4	2½" dia.	6 9
$\frac{1}{15}$	960		SA49	29 13.1	V 694	3	18 9	2½" dia.	5 0
$\frac{1}{15}$	1440		SA49	29 13.1	V 699	3	15 0	1½" face	6 9
$\frac{1}{15}$	2800		SA49	29 13.1	V 696	3	15 0		
$\frac{1}{15}$	1440		SA53	37 17	V 701	4	5 0		
$\frac{1}{15}$	960		SA53	37 17	V 702	4	9 3		
$\frac{1}{15}$	1440		SA53	39 17.5	V 703	4	5 0		
$\frac{1}{15}$	2800	Ball	SA53	40 18	V 704	4	5 0		
$\frac{1}{15}$	1440		A0	50 22.5	V 709	5	0 0		
$\frac{1}{15}$	960		SA63	56 25.5	V 707	4	19 6		
$\frac{1}{15}$	1440		SA63	55 25	V 705	4	15 0	3½" dia.	6 9
$\frac{1}{15}$	960		SA63	56 25.5	V 712	5	10 3	2" face	
$\frac{1}{15}$	1440		SA63	56 25.5	V 713	5	5 0		
$\frac{1}{15}$	2800		SA63	57 26	V 717	5	15 0		
$\frac{1}{15}$	1440		SA63	58 26.5	V 718	5	15 0		

**Slide rails.**—Frame sizes SA51, SA53, SA61 and SA63, 7s 9d. per set; frame size A0, 12s. 6d. per set.

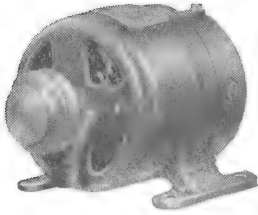
*When ordering, please specify Catalogue Number, Voltage and Frequency.*

\* Mechanically interchangeable with D.C. motors of the same rating

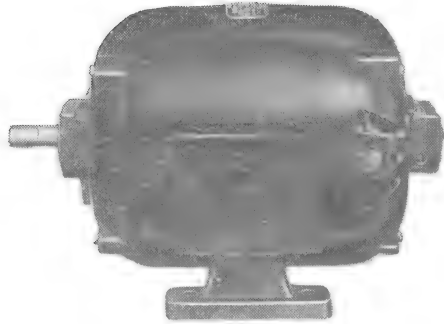
**G.E.C.**

## **“WITTON” FRACTIONAL H.P. MOTORS**

### **UNIVERSAL AND DIRECT CURRENT MOTORS**



**V 506**



**V 630**

WITTON motors are suitable for most fractional horse-power drives where reliable universal or d.c. machines are required.

**Frame.**—Frame sizes S4 to S80 inclusive are of the semi-enclosed protected type

**Windings.**—Frame sizes S4, S6, S8 and S36 are provided with universal windings suitable for operation from d.c. or a.c., 25/60-cycle, single-phase supplies. Frame size S25 is shunt wound, and S31, S50, S60, S71 and C3 are compound wound for use on d.c. supplies only.

**Bearings.**—Frame sizes S6 to S31 are provided with wick-lubricated bearings. Frame sizes S50 to S71 can be provided with wool-packed wad-lubricated bearings or ball bearings, as required.

### **SPECIAL FEATURES**

Among the special features incorporated in these motors are :—

**Commutator of hard drawn copper segments** (*not* cast), insulated with selected mica.

**Good commutation and minimum brush wear** with rectangular carbon brushes.

**Insulating material of the highest grade**, adopted after extensive investigations in the G.E.C. Research Laboratories at Wembley.

## “WITTON” FRACTIONAL H.P. MOTORS

### UNIVERSAL AND DIRECT CURRENT MOTORS

#### UNIVERSAL D.C. and A.C.

100/250 volts, 25/60 cycles.

B.H.P.	Speed. r.p.m.	Bear-ings.	Frame Size.	Weight. (approx.)		Catalogue No.			Price each.			Pulley.	
						Volts 100/115	Volts 200/225	Volts 230/250				Size.	Price each.
				lb.	kilos.				£	s.	d.		s. d.
	2500	Oil	S4	2½	1.02	V 500*	V 501	V 502	1	7	9	Double grooved 1' & 1½" diam.	In-cluded
	2500	Wick	S6	4½	2.15	V 506	V 507	V 508	2	3	4		
	3500		SF5	6½	2.95	V 509	V 510	V 511	1	12	6		
	2000	Wad	S8	8	3.62	V 512	V 513	V 514	2	7	9		
	3000		S36	18½	8.5	V 518	V 519	V 520	4	3	4	Grooved 2½" dia.	4 3
	4000		S36	19	9	V 524	V 525	V 526	4	5	0		

\*Catalogue No. V 500 is wound for 75 volts. It is also suitable for circuits up to 250 volts with lamp (40 watts on 200 volts, 60 watts on 230/250 volts) or resistance in series.

#### DIRECT CURRENT.

100/250 volts.

B.H.P.	Speed. r.p.m.	Bear-ings.	Frame Size.	Weight. (approx.)		Catalogue No.				Price each.			Pulley.	
						Volts 100/115	Volts 200	Volts 220/230	Volts 240/250				Size.	Price each.
				lb.	kilos.					£	s.	d.		s. d.
20	2000	Wick	S25†	14	6.34	V 550	V 570†	†	V 590†	3	1	8	Grooved 1½" dia.	In-cluded
1½	1440		S31†	20	9.4	V 554	V 574†	†	V 594†	3	8	4		
1½	1440	Wad	S50	36	16.3	V 602	V 622	V 642	V 662	4	8	4	2½" dia. × 1½" face	5 0
1	1000		S60	50	22.5	V 606	V 626	V 646	V 666	5	10	0		
1	1440		S60	50	22.5	V 610	V 630	V 650	V 670	5	10	0	3½" dia. × 2" face	6 9
1	1100		S71	56	25.5	V 614	V 634	V 654	V 674	7	12	0		
1	1440	Wad	S71	56	25.5	V 618	V 638	V 658	V 678	7	12	0	3½" dia. × 2" face	6 9
1	1800		S71	56	25.5	V 619	V 639	V 659	V 679	7	12	0		
1	1440	Ball	S80	104	47.2	V 620	V 640	V 660	V 680	9	15	0	4½" dia. × 3" face	13 6
1	1100		C3	70	32	V 700	V 720	V 740	V 760	15	9	6		

†These frames are wound for 100/115, 200/225 and 230/250 volts.

‡Ball bearings can be supplied without extra charge. When ball bearings are required add suffix letter "B" after the Catalogue Number, e.g., V 602B.

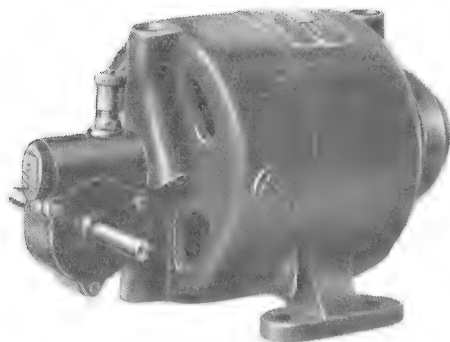
**Slide rails.**—Frame sizes S50, S60 and S71, 7s. 9d. per set; frame size S80, 17s. 3d. per set; frame size C3, £1 0s. 0d. per set.

*When ordering, please specify Catalogue Number, Voltage and (for A.C.) Frequency.*



## “WITTON” FRACTIONAL H.P. MOTORS

GEARED MOTORS—A.C. AND D.C.



VG 513

WITTON geared motors are suitable for most applications where a reliable, efficient and silent slow-speed power unit is required.

These units are supplied in the  $\frac{1}{8}$ ,  $\frac{1}{4}$  and  $\frac{1}{2}$  h.p. ratings of all types of motors listed in the preceding page.

**Frame.**—Each frame has its specific pattern of gear box built to form an efficient and compact speed reducing unit with best conditions for smooth running.

**Bearings.**—Ball bearings are fitted to allow ample safety for normal loads.

**Drive.**—The unit can be flexibly coupled to direct drives, or it may be belt or chain-driven without necessitating an extra bearing.

**Gear box.**—Three different sizes of gear box are available for each rating, arranged to accommodate single, compound and triple reductions ; the maximum ratios obtainable are 4.3 : 1, 18.5 : 1 and 80 : 1 respectively. Almost any ratio up to the maximum for each gear box can be supplied to order.

**Gears.**—The gears are of the spur pattern running in an oil bath ; a combined oil vent and filler plug is provided to facilitate filling. The first reduction in all units comprises spiral gears, which are accurately cut on a gear-hobbing machine, thus ensuring noiseless running. A cast pedestal can be supplied if required.

**Gears for Frame Sizes S6 and S8.**—Frame sizes S6 and S8 (1/60 and 1/40 h.p.) are supplied with 44 : 1 ratio worm reduction gears, mounted on the end bracket, the secondary shaft being at right angles to the motor spindle. These units are admirably suited to driving advertising models, etc.



# “ WITTON ” FRACTIONAL H.P. MOTORS

## GEARED MOTORS—A.C. AND D.C.

### STANDARD RATIOS, SPEEDS AND TORQUES.

Motor B.H.P.	6 : 1		9 : 1		12½ : 1		18½ : 1	
	Final Shaft Speed. r.p.m.	Max. Torque. lb.-inch.	Final Shaft Speed. r.p.m.	Max. Torque. lb.-inch.	Final Shaft Speed. r.p.m.	Max. Torque. lb.-inch.	Final Shaft Speed. r.p.m.	Max. Torque. lb.-inch.
$\frac{1}{8}$	240	30	160	45	114	63	78	90
$\frac{1}{4}$	240	60	160	90	114	126	78	180
$\frac{1}{2}$	240	120	160	180	114	252	78	360
$\frac{3}{4}$	240	180	160	270	114	379	78	554
** $\frac{7}{8}$	240	210	160	340	114	442	78	646

### SINGLE-PHASE. 100/250 volts, 50 cycles.

Motor B.H.P.	Frame Size.	Winding.	Catalogue No.				Price each.		
			Volts 110/115	Volts 200	Volts 220/230	Volts 240/250	£	s.	d.
$\frac{1}{8}$	SA 31	Split- phase	VG 555	VG 575	VG 595	VG 615	9	10	0
$\frac{1}{4}$	SA 51		VG 603	VG 623	VG 643	VG 663	10	15	0
$\frac{1}{2}$	SA 61	induction	VG 611	VG 631	VG 651	VG 671	12	10	0
$\frac{3}{4}$	SR 51		VG 775	VG 755	VG 775	VG 795	12	0	0
$\frac{1}{2}$	SR 61	Repulsion- start	VG 827	VG 807	VG 827	VG 847	14	0	0
$\frac{3}{4}$	SR 71		VG 811	VG 831	VG 811	VG 851	15	10	0

### THREE-PHASE. 400/440 volts, 50 cycles.

Motor B.H.P.	Frame size.	Winding.	Catalogue No.				Price each.		
			Volts 100/115	Volts 200	Volts 220/230	Volts 240/250	£	s.	d.
$\frac{1}{8}$	SA 53	Squirrel cage induction	VG 701				10	10	0
$\frac{1}{4}$	SA 63		VG 705				12	0	0
$\frac{1}{2}$	SA 63		VG 713				13	10	0
** $\frac{7}{8}$	SA 63		VG 717				14	0	0

### UNIVERSAL AND DIRECT CURRENT.

100/250 volts, D.C. and A.C. Single-phase, 25/60 cycles.

Motor B.H.P.	Frame Size.	Winding.	Catalogue No.				Price each.		
			Volts 100/115	Volts 200	Volts 220/230	Volts 240/250	£	s.	d.
$\frac{1}{8}$	S 6†	Series universal	VG 506	VG 507*	*	VG 508*	2	12	9
$\frac{1}{4}$	S 8†		VG 512	VG 513*	*	VG 514*	3	1	8
$\frac{1}{2}$	S 31*	Compound	VG 554	VG 574*	*	VG 594*	9	10	0
$\frac{3}{4}$	S 50		VG 602	VG 622	VG 642	VG 662	10	15	0
$\frac{1}{2}$	S 60		VG 610	VG 630	VG 650	VG 670	12	10	0

**Pedestal only** for motor (not required for frames S6 and S8), price **8s. 6d.** each.

\*These frames are wound for 100/115, 200/225 and 230/250 volts.

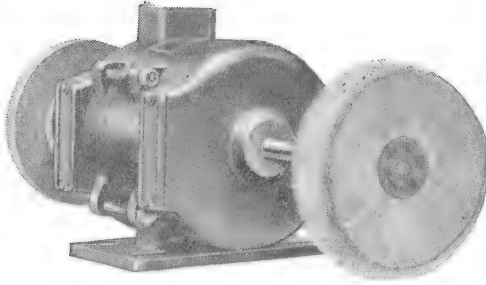
\*\*The maximum ratio obtainable on this rating is 18½ : 1.

†These frames are provided with 44 : 1 ratio worm reduction gears, the final shaft having a full load speed of approximately 48 r.p.m. The maximum torque obtainable on the secondary shaft of the S6 frame is 3.5 lb.-inch, and on the S8 frame, 4 lb.-inch.

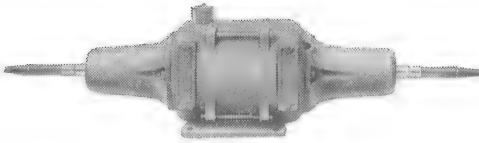
When ordering, please specify Catalogue Number, Final Shaft Speed required, Voltage and (if for A.C.) Frequency.

# G.E.C.

## POLISHING AND GRINDING MOTORS



V 1995 Standard type.



V 1995 Extended bearing type.

The G.E.C. Double Spindle polishing and grinding motors illustrated on this page comprise a range of totally enclosed dustproof machines, built on robust lines.

**Starting.**—All motors are suitable for switching direct on to the line by means of an ordinary double pole or triple pole switch, with the exception of direct current motors of  $3/4$  h.p. and above, which require starters of the graduated resistance type.

**Terminals.**—The terminals are enclosed in a cast iron box, provided with a conduit entry, tapped  $\frac{1}{2}$ -in. E.T.

**Shafts.**—Shafts are turned from high tensile steel and extended on both sides of the motor. Each shaft extension is provided with a parallel threaded portion to take cheek plates for emery wheels, and a taper threaded portion to take polishing mops.

**Bearings.**—Ball bearings of ample size are fitted to meet the heavy stress and thrust imposed upon them by grinding and polishing operations. A metal sleeve is fitted to every bearing to exclude dust and grit.

**Extended Bearings.**—For certain polishing and grinding duties that call for longer shaft extensions, special four-bearing machines having the outer bearings supported in tapered snouts attached to the motor end shield are available.

**Pedestals.**—Substantial cast iron pedestals (with the switch mounted on the front) can be supplied for floor mounting.

## POLISHING AND GRINDING MOTORS

**DIRECT CURRENT.** 100/110, 200/220, and 230/250 volts.

Cat. No.	B.H.P.	Speed.	Weight (approx.)		Price each.														
					Motors.			Extended Bearing Motors.			Starters.			Cheek Plates.			Pedestals (with switch).		
			lb.	kilos.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
V 1995	½	2800	28	12.5	6	17	9	—	—	—	Not required			7	9	5	15	6	6
		1400			6	17	9	—	—	—				7	9	5	15	6	6
V 1996	¼	2800	44	20	8	2	9	12	12	3				10	0	5	19	6	6
		1400			8	2	9	12	12	3				10	0	5	19	6	6
V 1997	⅓	2800	51	23	10	10	0	15	5	9				10	0	6	1	8	8
		1400	70	31.5	13	17	0	20	3	6				12	3	8	0	0	0
V 1998	½	2800	70	31.5	14	16	6	21	7	3	1	16	6	15	6	8	0	0	0
		1400	76	34.5	16	1	8	22	12	9	1	16	6	15	6	8	0	0	0
V 1999	1	2800	76	34.5	16	13	6	23	10	6	1	16	6	1	0	0	8	12	9
		1400	82	37	18	0	0	24	17	9	1	16	6	1	0	0	8	12	9

**A.C. SINGLE-PHASE.** 100/110, 200/220, and 230/250 volts.

Cat. No.	B.H.P.	Speed.	Weight (approx.)		Price each.														
					Motors.			Extended Bearing Motors.			Starters.			Cheek Plates.			Pedestals (with switch).		
			lb.	kilos.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
V 2250	½	2800	22	10	7	7	9	—	—	—	Not required			7	9	5	15	6	6
		1400			6	17	3	—	—	—				7	9	5	15	6	6
V 2251	¼	2800	35	16	8	2	9	12	12	3				10	0	5	19	6	6
		1400	36	16.5	7	15	6	12	4	6				10	0	5	19	6	6
V 2252	⅓	2800	44	20	11	4	6	16	0	0				10	0	6	1	8	8
		1400	46	21	10	17	9	17	4	6				12	3	8	0	0	0
V 2253	½	2800	48	22	13	7	9	19	17	9				15	6	8	0	0	0
		1400	78	35.5	14	19	6	21	10	0				15	6	8	0	0	0
V 2254	1	2800	79	36	16	0	0	22	17	9				1	0	0	8	12	9
		1400	87	39.5	16	10	6	23	7	9				1	0	0	8	12	9

**A.C. THREE-PHASE.** 340/380 and 400/440 volts.

Cat. No.	B.H.P.	Speed.	Weight (approx.)		Price each.														
					Motors.			Extended Bearing Motors.			Starters.			Cheek Plates.			Pedestals (with switch).		
			lb.	kilos.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
V 2255	½	2800	19	8.5	6	1	8	—	—	—	Not required			7	9	5	15	6	6
		1400			6	1	8	—	—	—				7	9	5	15	6	6
V 2256	¼	2800	32	14.5	6	17	9	11	7	3				10	0	5	19	6	6
		1400			6	17	9	11	7	3				10	0	5	19	6	6
V 2257	⅓	2800	34	15.5	7	7	9	12	4	6				10	0	6	1	8	8
		1400	40	18.0	8	0	0	14	5	6				12	3	8	0	0	0
V 2258	½	2800	40	18.0	9	4	6	15	15	6				15	6	8	0	0	0
		1400	42	19.0	9	17	3	16	7	9				15	6	8	0	0	0
V 2259	1	2800	42	19.0	11	7	3	18	4	6				1	0	0	8	12	9
		1400	72	32.5	13	12	3	20	9	6				1	0	0	8	12	9

Grinding Wheels and Polishing Buffs are not included in the above prices. Quotations for these on application.

**G.E.C.**

## **WITTON ” DOUBLE SPINDLE POLISHERS**



**G.E.C. 2-h.p. 2800-r.p.m. double spindle electric polisher.**

Motors of 2-h.p. and upwards are provided with four bearings, three being of the roller type and one ball bearing. Two of these bearings are mounted on each spindle. The ball bearing takes the thrust which may be imparted in either direction to the spindle during polishing processes.

On these types a dust-tight hinged door is provided on the pedestal and gives access to the direct-to-line starter mounted inside. The starter is push-button operated from the outside by two dust-tight buttons in the centre of the hinged door.

In case of emergency the motor can be stopped by pushing the large button mounted in front of the motor. This feature provides a great measure of safety for the operator for in any difficulty he can stop the motor by simply leaning against the button.

Cat. No.	B.H.P.	Type.	Speed. r.p.m.	Voltage (three-phase A.C.) 50 cycles.	Price each (with pedestal and switch)		
					£	s.	d.
<b>V 890</b>	<b>2</b>	Squirrel cage	<b>2800</b>	<b>400/440</b>	<b>37</b>	<b>15</b>	<b>6</b>

Details and prices of motors up to 5 h.p. on application.  
These polishers can also be supplied for use on D.C. circuits.

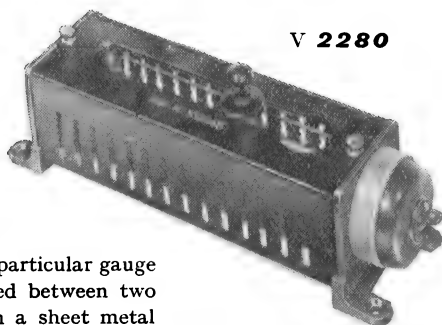
## SLIDING RESISTANCES

FOR REGULATING FRACTIONAL H.P. MOTORS, ETC.

### SINGLE-COIL TYPE

V 2280

G.E.C. single-coil sliding resistances have a wide field of application, including the provision of an effective and fine degree of speed regulation on fractional h.p. motors.



**Construction.**—The resistances are constructed on sturdy lines. They comprise rectangular slate formers, threaded to suit the particular gauge of copper nickel alloy wire used and mounted between two cast-iron end plates; the whole is enclosed in a sheet metal cover, giving full protection. The sliding contact brush is carried on a spring-mounted rod, thus ensuring minimum wear on the resistance winding.

#### Cut-off switch

Tumbler switches can be fitted to cut off the current irrespective of the position of the sliding contact.

TYPE A					
Max. amps.	Catalogue No.	Max. resistance.	Price each.		
		Ohms.	Without Switch.		With 5-amp. Switch.
			s.	d.	£ s. d.
$\frac{1}{2}$	V 2280	500	18	10	1 0 7
$\frac{3}{4}$	V 2281	250			
1	V 2282	150			
$1\frac{1}{2}$	V 2283	100			
$1\frac{3}{4}$	V 2284	60			
2	V 2285	40			
3	V 2286	16	18	10	—
4	V 2287	10			
5	V 2288	6			
6	V 2289	4			
8	V 2290	2.5	18	10	—
10	V 2291	1.5			

TYPE B					TYPE C				
Max. amps.	Cat. No.	Max. resistance.	Price each.		Cat. No.	Max. resistance.	Price each.		
		Ohms	Without Switch.	With 5-amp. Switch.		Ohms	Without Switch.	With 5-amp. Switch.	
			£ s. d.	£ s. d.			£ s. d.	£ s. d.	
$\frac{1}{2}$	V 2292	750	1 2 0	1 3 10	V 2304	1000	1 4 10	1 6 6	
$\frac{3}{4}$	V 2293	375			V 2305	500			
1	V 2294	225			V 2306	300			
$1\frac{1}{2}$	V 2295	150			V 2307	200			
$1\frac{3}{4}$	V 2296	90			V 2308	120			
2	V 2297	60			V 2309	80			
3	V 2298	24	1 2 0	—	V 2310	32	1 4 10	—	
4	V 2299	15			V 2311	20			
5	V 2300	9			V 2312	12			
6	V 2301	6			V 2313	8			
8	V 2302	3.75			V 2314	5			
10	V 2303	2.25			V 2315	3			

**Dimensions and weights:** Type A—Overall length, 12 in., Weight (approx.), 4 lb. (1.84 kilos.).  
Type B—Overall length, 15 in., Weight (approx.), 5½ lb. (2.49 kilos.).  
Type C—Overall length, 18 in., Weight (approx.), 6½ lb. (2.94 kilos.).

NOTE.—Sliding resistances of higher rating and lighter construction can be supplied if required. Prices on application.

When ordering, please specify Catalogue Number, Voltage and Actual Current Taken.

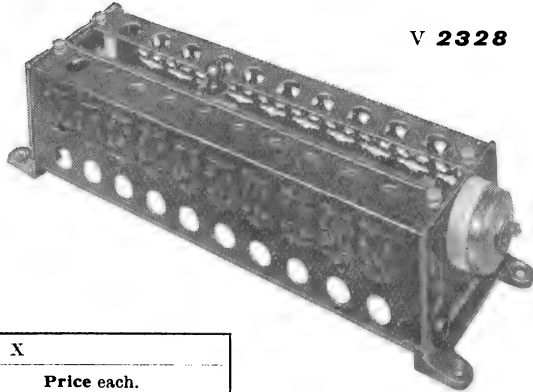
## SLIDING RESISTANCES

**FOR REGULATING  
FRACTIONAL H.P.  
MOTORS, ETC.**

**V 2328**

### DOUBLE-COIL TYPE

G.E.C. double-coil sliding resistances have a wide field of application, including the provision of an effective and fine degree of speed regulation on fractional h.p. motors.



TYPE X									
Max. amps.	Cat. No.	Max. resistance.	Price each.						
			Without Switch.			With 5-amp. Switch.			
		Ohms.	£	s.	d.	£	s.	d.	
$\frac{1}{2}$	V <b>2328</b>	1500	}	1	16	10	1	18	7
$\frac{3}{4}$	V <b>2329</b>	750							
1	V <b>2330</b>	450							
$1\frac{1}{4}$	V <b>2331</b>	300							
$1\frac{1}{2}$	V <b>2332</b>	180							
2	V <b>2333</b>	120	}	1	16	10	2	1	0
3	V <b>2334</b>	48							
4	V <b>2335</b>	30							
5	V <b>2336</b>	18							
6	V <b>2337</b>	12							
8	V <b>2338</b>	7.5	}	1	16	10	2	1	0
10	V <b>2339</b>	4.5							

**Construction.**—The resistances are constructed on sturdy lines, comprising *threaded* rectangular slate formers, copper and nickel alloy wire, cast-iron end plates and sheet metal cover. They are generally similar to the single-coil type (see page 757).

Max. amps.	TYPE Y								TYPE Z									
	Cat. No.	Max. resistance.	Price each.						Cat. No.	Max. resistance.	Price each.							
			Without Switch.			With 5-amp. Switch.					Without Switch.			With 5-amp. Switch.				
		Ohms	£	s.	d.	£	s.	d.		Ohms	£	s.	d.	£	s.	d.		
$\frac{1}{2}$	V <b>2340</b>	2000	}	2	0	6	2	2	6	V <b>2352</b>	2500	}	2	4	6	2	6	6
$\frac{3}{4}$	V <b>2341</b>	1000								V <b>2353</b>	1250							
1	V <b>2342</b>	600								V <b>2354</b>	750							
$1\frac{1}{4}$	V <b>2343</b>	400								V <b>2355</b>	500							
$1\frac{3}{4}$	V <b>2344</b>	240								V <b>2356</b>	300							
2	V <b>2345</b>	160	}	2	0	6	2	4	6	V <b>2357</b>	200	}	2	4	6	2	8	6
3	V <b>2346</b>	64								V <b>2358</b>	80							
4	V <b>2347</b>	40								V <b>2359</b>	50							
5	V <b>2348</b>	24								V <b>2360</b>	30							
6	V <b>2349</b>	16								V <b>2361</b>	20							
8	V <b>2350</b>	10	}	2	0	6	2	4	6	V <b>2362</b>	12.5	}	2	4	6	2	8	6
10	V <b>2351</b>	6								V <b>2363</b>	7.5							

**Dimensions and weights:** Type X—Overall length, 15 in., Weight (approx.), 10 lb. (4.53 kilos.).  
Type Y—Overall length, 18 in., Weight (approx.), 13 lb. (5.9 kilos.).  
Type Z—Overall length, 21 in., Weight (approx.), 16 lb. (7.26 kilos.).

**NOTE.**—Sliding resistances of higher rating and lighter construction can be supplied if required. Prices on application.

When ordering, please specify Catalogue Number, Voltage and Actual Current Taken.

## BAKELITE BELLS

### SUITABLE FOR BATTERY OR TRANSFORMER WORKING

Instead of hooks, the cover of a MAGNET Bakelite Bell is fixed by means of a thumbscrew.

The armature contact spring is anchored to prevent displacement.

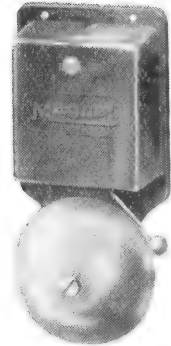
The bobbins are wound with enamelled copper wire.

Easy wiring pillar terminals are fitted under the cover.

#### ORDINARY QUALITY

**Specification**—Pressed iron frame; steel contact spring and nickel-plated brass contact pillar, both having silver contact points; line terminals under cover; nickel-plated steel gong.

Cat. No.	Size of Gong.	Resistance.	Overall dimensions.	Weight	Price each, Round Gong.	Price each, Sheep Gong.
	ins.	ohms.	ins.	ozs.	s. d.	s. d.
L 2020	2½	3	6½ × 3 × 1½	8	3 3	3 9
L 2021	3	3	6½ × 3 × 1½	8	3 6	4 0



L 2020

#### MEDIUM QUALITY

**Specification**—Iron frame movement; brass contact pillar and steel spring, both having gold-silver points; nickel-plated bell metal gong.

Cat. No.	Size of Gong.	Resistance.	Overall dimensions.	Weight	Price each, Round Gong.	Price each, Sheep and Church Gong.
	ins.	ohms.	ins.	ozs.	s. d.	s. d.
L 2030	2½	3½	6 × 3 × 1½	11	5 6	6 3



L 2030

#### MEDIUM QUALITY HIGH VOLTAGES 100/250 VOLTS

For short period working only

**Specification**—Similar in construction to L 2030, except that the coils are insulated and wound suitable for working on D.C. or A.C. mains supply. 100/110 and 200/250 volts. State voltage when ordering.

Catalogue No.	Size of Gong.	Overall dimensions.	Weight.	Price each, Round Gong.
	ins.	ins.	ozs.	s. d.
L 2031	2½	6 × 3 × 1½	12	9 6

#### SUPERIOR QUALITY

**Specification**—Iron frame movement; fitted with improved type of rubbing spring contacts, with gold-silver contact points; nickel-plated bell metal gong.

Cat. No.	Size of Gong.	Resistance.	Overall dimensions.	Weight	Price each, Round Gong.	Price each, Sheep & Church Gong.	Price each, Wire Gong.
	ins.	ohms.	ins.	lb. oz.	s. d.	s. d.	s. d.
L 2045	3	3½	6½ × 3½ × 2½	1 2	8 6	10 6	10 6
L 2046	4	3½	7½ × 4 × 2½	1 7	11 6	13 6	—

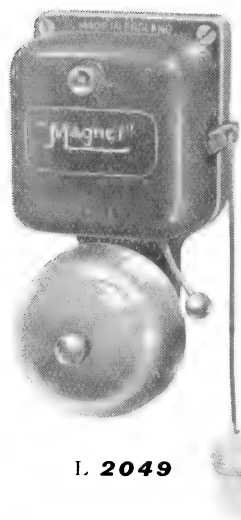


L 2045

**NOTE**—Measurements of Sheep Gongs are taken in height and not diameter as in other Gongs.

# S.E.C.

## BAKELITE BELLS AND BUZZERS



L 2049

### CONTINUOUS ACTION TYPE BELL

#### BATTERY OR TRANSFORMER WORKING

For general specification see L 2045, (previous page), from which it differs in that it embodies a MAGNET continuous ringing device. This device comprises a lever contact, which is released by the armature and closes a local battery circuit, causing the bell to ring continuously after the pressure on the push button has been removed. The ringing can only be stopped by pulling the cord, attached to the lever at the side of the case, which is of Bakelite.

Cat. No.	Size of Gong.	Resist- ance.	Overall dimensions.	Weight		Price each Round Gong.			Price each Sheep Gong.		
	ins.	ohms.	ins.	lb.	oz.	£	s.	d.	£	s.	d.
L 2049	3	5	$6\frac{1}{2} \times 3\frac{1}{2} \times 2\frac{1}{2}$	1	3	1	0	0	1	2	0
L 2050	4	7	$7\frac{1}{2} \times 4 \times 2\frac{1}{2}$	1	6	1	2	6	1	4	6

### ALARM BELL

#### BATTERY RINGING

**Specification**—Real teak wood base and cover; cast iron frame carrying gong pillar; bobbins wound with enamelled copper wire; improved type of rubbing spring contacts, with gold-silver contact point and nickel-plated bell metal gong.



L 2040

Cat. No.	Size of Gong.	Resist- ance.	Overall dimensions.	Weight		Price each Round Gong.			Price each Sheep Gong.		
	ins.	ohms.	ins.	lb.	oz.	£	s.	d.	£	s.	d.
L 2040	6	10	$12 \times 6 \times 4$	4	8	1	10	0	1	14	0

*NOTE*—Measurements of sheep gongs are taken by height and not diameter as in other gongs.

### BAKELITE BUZZER

#### BATTERY OR TRANSFORMER WORKING

**Specification**—Cover and base of polished brown Bakelite, with thumbscrew for fixing cover to the base. Iron frame movement; bobbins wound with enamelled copper wire; brass contact pillar and steel contact spring, both having gold-silver contact points.



L 3056

Cat. No.	Resist- ance.	Overall dimensions.	Weight.		Price each.	
	ohms.	ins.	ozs.		s.	d.
L 3054	3	$3\frac{1}{2} \times 3 \times 1\frac{1}{2}$	5 $\frac{1}{4}$		2	9
L 3056	3 $\frac{1}{2}$	$3 \times 3 \times 1\frac{1}{2}$	9		4	6

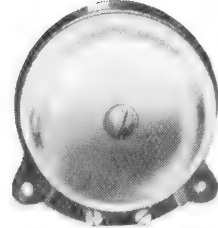


# BATTERY RINGING BELLS

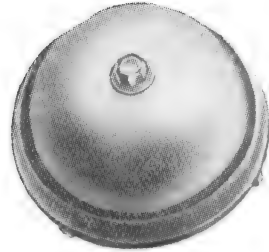
## UNDERDOME TYPE CIRCULAR

**Specification**—Cast iron frame; bobbins wound with enamelled covered copper wire; armature fitted with check spring; hammer striking on lug of gong. The gong covers the whole of the movement.

Cat. No.	Size of Gong.	Resistance.	Overall dimensions.	Weight	Price each.
	ins.	ohms.	ins.	ozs.	s. d.
L 2245	3	3½	3½ × 3 × 2	8	6 9
L 2246	3	Wound for 12 volts D.C.	3½ × 3 × 2	8	8 6



**L 2245**

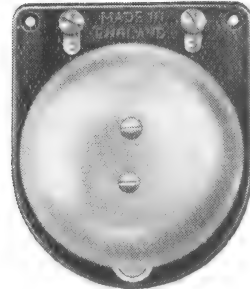


**L 3001/5**

## TRACTION AND CAR TYPE 12 VOLTS D.C.

Specially designed for traction work; unaffected by vibration; all working parts firmly secured; gongs heavy cast and turned bell metal, giving a good loud tone.

Cat. No.	Description.	Size of Gong	Resistance.	Overall dimensions.	Weight	Price each.
		ins.	ohms.	ins.	lb. oz.	s. d.
L 3001	Trembling bell, on iron base.	4½	100	5½ × 3	1 10	15 0
L 3005	Trembling bell, single stroke, on wood base	4½	26	5½ × 3	2 3	17 0

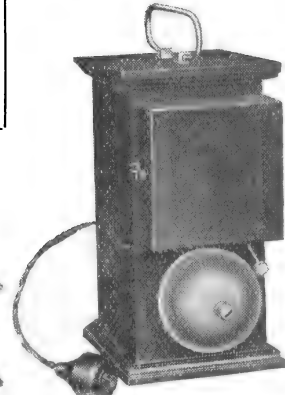


**L 2026**

## TRANSFORMER BELL LOW VOLTAGE

**Specification**—Bakelite base; iron frame; double bobbin; designed to operate from A.C. transformer circuits in conjunction with L 3153 Transformer.

Cat. No.	Size of Gong.	Resistance.	Overall dimensions.	Weight	Price each.
	ins.	ohms.	ins.	ozs.	s. d.
L 2026	3	5	4 × 3½ × 1½	8	3 0



**L 3317**

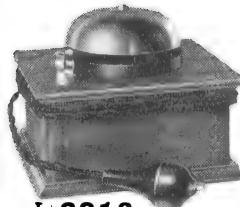
## NURSES' BELL SETS

Cat. No. L 3317—Polished walnut case, with an L 4937 G.E.C. dry cell, 2½ in. gong, 12 yards double silk wire, and pear push.

**Price complete 30/-**

L 3318—Polished hardwood box with G.E.C. battery L 6112, 2½ in. circular bell, flexible cord and bakelite pear push.

**Price complete 10/6 L 3318**



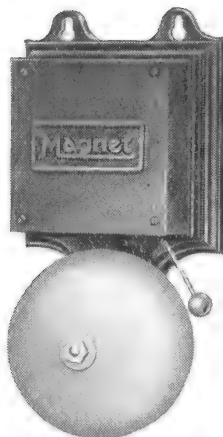
# S.E.C.

## IRONCLAD WEATHERPROOF BELLS

FOR FACTORIES, RAILWAYS, FIRE ALARMS, ETC.

### BATTERY RINGING TYPE

**Specification**—Cast iron case, black enamelled; bobbins wound with enamelled insulated copper wire; contact pillar and armature fitted with silver points; rough bell metal gong.



L 2181/88

Cat. No.	Size of Gong.	Resist- ance.	Overall dimensions.	Weight	Price each Round Gong.			Price each Sheep Gong.		
					£	s.	d.	£	s.	d.
L 2181	4	4	10 × 5½ × 2½	5	1	1	0	—	—	—
L 2184	6	10	14 × 6½ × 3½	9	1	5	0	1	7	6
L 2186	8	15	17 × 7½ × 5	16½	2	2	0	2	10	0
L 2187	10	15	19 × 7½ × 6	18½	3	0	0	—	—	—
L 2188	12	30	23 × 12 × 7	34	4	10	0	—	—	—

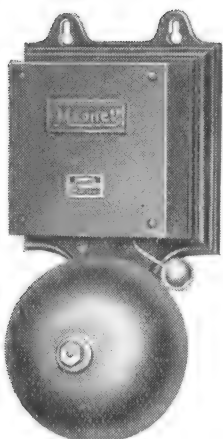
**NOTE.**—These Bells can be supplied wound to higher resistances at an additional cost.

### HIGH VOLTAGE TYPE

**FOR CONNECTION DIRECT TO POWER MAINS  
100/250 VOLTS**

**Specification**—Specially designed and insulated for use on high voltage D.C. or A.C. mains supply. The bobbins are wound to give the maximum power with the minimum of current. The movement is mounted in a cast iron case, with earthing screw. The gongs are of special resonant cast iron. The make and break contact is designed to reduce sparking to a minimum.

**When ordering give full details of mains supply.**



L 2280/89

Cat. No.	Type.	Size of Gong.	Overall dimensions.	Weight.	Price each.		
					£	s.	d.
L 2280	D.C.	4	10 × 5 × 3	5	1	12	0
L 2281	A.C.	4	10 × 5 × 3	5	1	12	0
L 2282	D.C.	6	13½ × 6½ × 4	9½	2	0	0
L 2283	A.C.	6	13½ × 6½ × 4	9½	2	0	0
L 2284	D.C.	8	17½ × 7½ × 5	16½	3	5	0
L 2285	A.C.	8	17½ × 7½ × 5	16½	3	5	0
L 2286	D.C.	10	18½ × 7½ × 5	18½	4	0	0
L 2287	A.C.	10	18½ × 7½ × 5	18½	4	0	0
L 2288	D.C.	12	23 × 12 × 7	34	5	14	0
L 2289	A.C.	12	23 × 12 × 7	34	6	14	0

**NOTE**—L 2281 and L 2283 can be wound for 12 Volts A.C.;  
L 2285/87/89 for 24 Volts A.C.

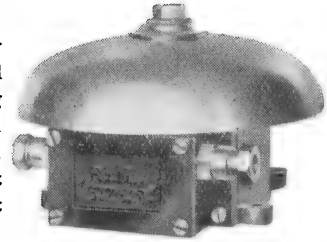
For Mine Bells and Accessories see pages 811 to 820.

# IRONCLAD BATTERY RINGING BELLS

**WEATHERPROOF PATTERN**

**SUITABLE FOR USE IN FACTORIES, PUBLIC BUILDINGS, RAILWAYS AND SHIPS, ETC.**

**Specification**—The MAGNET Thruster Circular Bell, with totally enclosed movement, for vertical or horizontal working, suitable for single or trembling stroke (no alteration or adjustment necessary). A separate watertight compartment with stuffing glands, is provided for the line terminals. The gong is of cast bell-metal, turned and polished. As a single stroke it responds to signals as fast as the operator can send them.

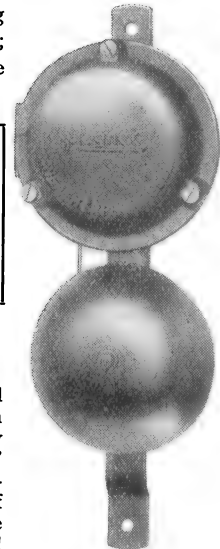


**L 2297**

Cat. No.	Size of Gong.	Weight	Overall dim.	Price each and Resistance.											
				2 ohms.			12 ohms.			25 ohms.			50 ohms.		
	ins.	lbs.	ins.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
L 2297	6	6	6×3½	2	15	0	2	17	0	2	19	0	3	1	0

**Specification**—MAGNET weatherproof bell, comprising cast steel gong; impregnated magnet coils; gold-silver contacts; mounted in cast iron case, with packed joint and separate terminal chamber.

Cat. No.	Size of Gong.	Resistance.	Overall dim.	Weight.	Price each.		
					£	s.	d.
<b>L 2298</b>	6	10	17×6½×2½	10½	<b>2</b>	<b>6</b>	<b>0</b>
<b>L 2299</b>	8	10	17×8×2½	11½	<b>2</b>	<b>8</b>	<b>6</b>



**L 2298/9**



**L 3000**

## AMBULANCE BELL

**Specification**—The **L 3000** Bell has been specially designed for use on Ambulance Cars. It comprises a heavy 8 in. turned bell metal gong, "Church" pattern, polished and lacquered. The movement is mounted inside the gong and is of the double bobbin type with a suitable shunt coil. The armature is counter-balanced and fitted with a brass hammer wire and hammer. The make and break is of robust construction with carbon contacts and will operate on 6-12 volts D.C.

A top and bottom fixing is provided with a ½-in. Whitworth thread.

Price **£8 8 0** each.

*For Mine Bells and Accessories see pages 811 to 820.*

# G.E.C.

## BAKELITE BELL PUSHES AND ROSETTES



L **3550/2**  
Rosette.



L **3452/3**  
Wall Push.



L **3541/3**  
Pear Push.



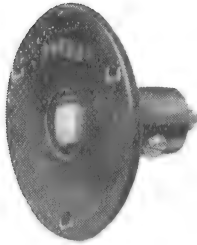
L **3456/58**  
Wall Push.

MAGNET Bakelite Pushes represent a distinct advance in design. The contacts of the springs are silver pointed. The bases, covers and plungers are made of moulded Bakelite, and the complete articles are of pleasing appearance.

Cat. No.	Description	Colour	Dimensions	Weight	Price each	
					s.	d.
L <b>3452</b>	Circular	White	1½ ins.	½ ozs.	1	6
L <b>3453</b>	Circular	Brown	1½	½	0	9
L <b>3456</b>	Circular	Brown	2½	1½	1	0
L <b>3458</b>	Circular	White	2½	1½	1	9
L <b>3541</b>	Pear Shape	Brown	2½ × 1½	½	1	0
L <b>3543</b>	Pear Shape	White	2½ × 1½	½	1	6
L <b>3550</b>	Rosette	Brown	1½	½	0	9
L <b>3552</b>	Rosette	White	1½	½	1	3
L <b>3561</b>	L <b>3541</b> and L <b>3550</b> combined with 6 feet of flexible cord	Brown	See L <b>3541</b> & L <b>3550</b>	1	2	6
L <b>3564</b>	L <b>3543</b> and L <b>3552</b> combined with 6 feet of flexible cord	White	See L <b>3543</b> & L <b>3552</b>	1	3	3

MAGNET Bakelite Electric Bells and Accessories are particularly suited for overseas requirements.

## BAKELITE BARREL AND TABLE BELL PUSHES



**L 4046/8**

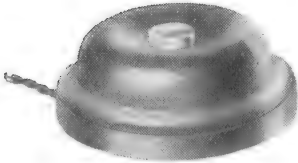


**L 4040/2**

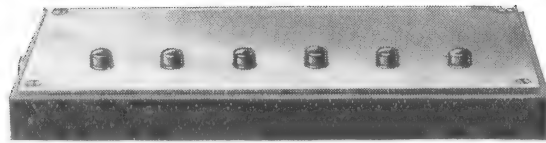
MAGNET Bakelite Barrel Pushes have many advantages over the metal types. They have a very high insulation resistance, and are therefore most suitable for transformer bell systems. Their appearance is pleasing; the plate requires no polishing and the contacts are robust and reliable. The plunger is seated on a rubber washer, making the push weatherproof.

Catalogue No.	Dimensions.	Weight.	Price each	
	ins.	ozs.	s.	d.
L 4040	2 × 1	1½	2	3
L 4041	3 × 1	1½	2	6
L 4042	3 × 1½	1½	2	9
L 4046	2	1½	2	3
L 4047	2½	1½	2	6
L 4048	3	1½	2	9

## TABLE PUSHES



**L 3569**



**L 3584**

Multiple table push, 1 to 6 ways, has black bakelite base, with oxidized silver metal top plate.

Multiple table push, 8 to 12 ways, has ebonite base, with oxidized silver metal top plate.

Catalogue No.	No. of Ways.	Colour.	Dimensions.	Weight.	Price each		
			ins.	ozs.	£	s.	d.
L 3569	1 way	Brown	Diam. 2½	2½		2	0
	1 "	Black	2½ × 2½ × ¾	4		5	6
	2 ways	"	2½ × 2½ × ¾	4		6	0
	3 "	"	3½ × 2½ × ¾	5		9	0
L 3584	4 "	"	4 × 2½ × ¾	6		11	6
	5 "	"	4½ × 2½ × ¾	7½		12	9
	6 "	"	5½ × 2½ × ¾	8½		14	0
	8 "	"	7½ × 2½ × 1	14	1	5	6
	10 "	"	4½ × 4½ × ¾	13	1	11	6
	12 "	"	5½ × 4½ × ¾	15	1	17	6

MAGNET Bakelite Electric Bells and Accessories are particularly suitable for overseas requirements.

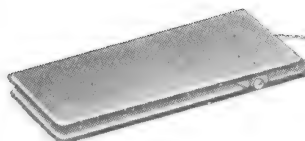
## BELL PUSHES AND FOOT PRESS CONTACTS



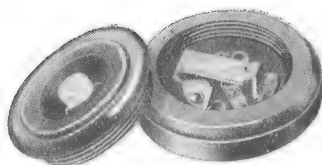
**L 4531**  
Barrel Type Foot Press,  
with removable plunger.



**L 3574**  
Polished Brass Table Push



**L 4533**  
Ideal Foot Press.



**L 3480**  
Morse Key Push.



**L 3545**  
Rubber Pear Push.



**L 3609**  
Floor or wall contact with  
vulcanized fibre plate, for  
use with table pushes, etc.

Cat. No.	Description.	Dimensions.	Weight.	Price each
		ins.	ozs.	s. d.
<b>L 4531</b>	Brass barrel type foot press with removable plunger .. ..	$2\frac{1}{2} \times 2$	4	<b>4 0</b>
<b>L 4533</b>	Ideal foot press comprising two brass plates insulated by an ebonite strip .. ..	$4\frac{1}{2} \times 3\frac{1}{2} \times \frac{1}{2}$	$8\frac{1}{2}$	<b>9 6</b>
<b>L 3574</b>	Polished brass table push .. ..	$2\frac{1}{2} \times 1\frac{1}{2}$	$7\frac{1}{2}$	<b>10 0</b>
<b>L 3609</b>	Floor or wall plug and socket for use with table push .. ..	$2 \times 2$	$1\frac{1}{2}$	<b>4 0</b>
<b>L 3480</b>	Morse key push, walnut body, nickel-silver springs .. ..	$3 \times 1\frac{1}{2}$	$2\frac{1}{2}$	<b>3 3</b>
<b>L 3545</b>	Rubber pear push without flexible .. ..	$2\frac{1}{2} \times 1\frac{1}{2}$	$1\frac{1}{2}$	<b>5 0</b>
<b>L 4639</b>	1 way Bell switch on wood base .. ..	$3\frac{1}{8} \times 1\frac{1}{2}$	$1\frac{1}{2}$	<b>1 3</b>
<b>L 4640</b>	2 " " " " " " " " .. ..	$3\frac{1}{8} \times 2$	$2\frac{1}{2}$	<b>1 6</b>
<b>L 4641</b>	3 " " " " " " " " .. ..	$3\frac{1}{8} \times 2\frac{1}{2}$	$2\frac{1}{2}$	<b>1 9</b>

### SPECIAL FINISHES

All metal pushes described on this and on pages 767 to 769 (other than Multiple pushes, which will be quoted for on receipt of full particulars) can be supplied in any of the following finishes at the extra cost quoted.

Steel Bronzed .. ..	No Extra Charge.
Steel Bronzed and Relieved, Oxidised Copper, Coinage	
Bronze, Statue Bronze, Florentine Bronze, Antique	
Brass, Bronzed Metal Antique and Satin Brass ..	Add <b>4/-</b> dozen list prices.
Nickel Plate .. ..	<b>4/6</b> " " "
Armour Bright and Oxidised Silver .. ..	<b>6/-</b> " " "
Electro Plate .. ..	<b>7/-</b> " " "
Chromium Plate, up to 3 in. dia., length or width ..	<b>12/-</b> " " "
" " over 3 in. and up to 6 in. dia., length or width ..	<b>24/-</b> " " "

# FRONT DOOR BELL PUSHES



**L 4355/6**

Bright brass, steel bronzed or half bronzed.



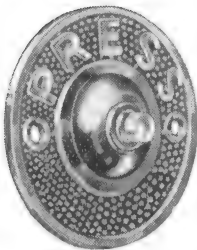
**L 4357**



**L 4363/4**

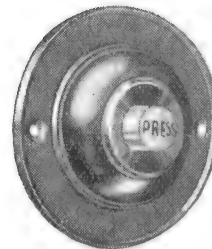
Bright brass or steel bronzed.

Cat. No.	Dimensions.	Weight.	Price each	
	inches.	ozs.	s.	d.
L <b>4355</b>	2 × 1	3	<b>3</b>	<b>9</b>
L <b>4356</b>	3 × 1½	3	<b>4</b>	<b>6</b>
L <b>4357</b>	3½ × 2	5	<b>6</b>	<b>6</b>
L <b>4363</b>	2½ × 1	3	<b>4</b>	<b>0</b>
L <b>4364</b>	3½ × 1½	4½	<b>5</b>	<b>0</b>



**L 4370/1**

Bronzed, with "PRESS" cast in bright letters.



**L 4380/1**

Bright brass, with fixed china "PRESS" plunger.

L **4384** is a lighter pattern.

Cat. No.	Dimensions.	Weight	Price each	
	inches.	ozs.	s.	d.
L <b>4370</b>	2½	3	<b>3</b>	<b>0</b>
L <b>4371</b>	3	4	<b>4</b>	<b>0</b>
L <b>4380</b>	2½	2½	<b>3</b>	<b>0</b>
L <b>4381</b>	3	3½	<b>4</b>	<b>3</b>
L <b>4384</b>	3	3	<b>2</b>	<b>6</b>

# S.E.C.

## FRONT DOOR BELL PUSHES



L **4391/2** are of bright brass with china plunger ;  
ebonite back ; L **4398/9** are a lighter pattern.

Cat. No.	Dimensions.	Weight.	Price each.	
	ins.	ozs.	s.	d.
L <b>4391</b>	$3\frac{1}{2} \times 1\frac{1}{2}$	$3\frac{1}{2}$	<b>3</b>	<b>6</b>
L <b>4392</b>	$3\frac{1}{2} \times 2$	$3\frac{1}{2}$	<b>4</b>	<b>3</b>
L <b>4398</b>	$3 \times 1\frac{1}{2}$	$2\frac{1}{2}$	<b>2</b>	<b>3</b>
L <b>4399</b>	$4 \times 2$	4	<b>3</b>	<b>0</b>

L **4391/2** ; L **4398/9**

Cat. No.	Dimensions.	Weight.	Price each.	
	ins.	ozs.	s.	d.
L <b>4397</b>	$3 \times 1\frac{1}{2}$	2	<b>3</b>	<b>0</b>



L **4397**  
Bright brass.



L **4402/6**

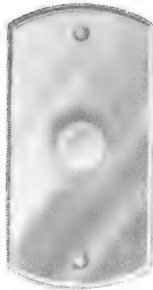
L **4402/06** are multiple front door push combinations,  
finished in bright brass. They can be engraved to suit  
individual requirements.

Cat. No.	No. of Ways.	Dimensions	Weight of Plate only.	Price each.	
		ins.	ozs.	s.	d.
L <b>4402</b>	2	$4\frac{1}{2} \times 2$	$2\frac{1}{2}$	<b>6</b>	<b>0</b>
L <b>4403</b>	3	$6\frac{1}{2} \times 2$	$3\frac{1}{2}$	<b>10</b>	<b>0</b>
L <b>4404</b>	4	$8\frac{1}{2} \times 2$	5	<b>13</b>	<b>6</b>
L <b>4405</b>	5	$10\frac{1}{2} \times 2$	6	<b>17</b>	<b>0</b>
L <b>4406</b>	6	$12\frac{1}{2} \times 2$	7	<b>19</b>	<b>6</b>

Engraving 1/6 per way extra.



**FRONT DOOR BELL PUSHES**



**L 4321**

Bright brass ; ebonite back ; china plunger ; **short barrel.**



**L 4331/5**

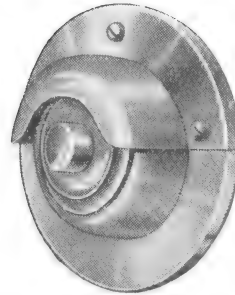
Bright brass, or steel bronzed ; ebonite back ; silver contacts ; watertight **long barrel.**

L **4339** is a lighter pattern.



**L 4322**

Bronzed and relieved ; **short barrel.**



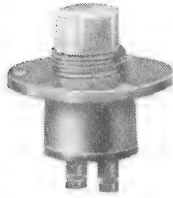
**L 4387**

Bright brass with solid brass back and hood ; waterproof.  
For Tramcars, Corridor Trains, etc.

Catalogue No.	Dimensions.	Weight.	Price each	
			s.	d.
L <b>4321</b>	inches. 3 × 1½	ozs. 4	<b>3</b>	<b>0</b>
L <b>4322</b>	3½ × 1½	2½	<b>2</b>	<b>6</b>
L <b>4331</b>	2	2½	<b>3</b>	<b>9</b>
L <b>4332</b>	2½	3½	<b>4</b>	<b>3</b>
L <b>4333</b>	3	5	<b>4</b>	<b>6</b>
L <b>4334</b>	3½	5½	<b>5</b>	<b>6</b>
L <b>4335</b>	4	7	<b>6</b>	<b>6</b>
L <b>4339</b>	3	3½	<b>3</b>	<b>3</b>
L <b>4387</b>	3	8½	<b>9</b>	<b>6</b>
L <b>4462</b>	Mahogany Recessed Block for L <b>4333</b>		<b>1</b>	<b>0</b>
L <b>4464</b>	" " " " L <b>4335</b>		<b>1</b>	<b>6</b>

# S.E.C.

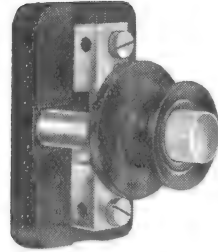
## FRONT DOOR BELL PUSHES



**L 3873**

Brass flush push ;  
barrel with imitation  
ivory plunger.

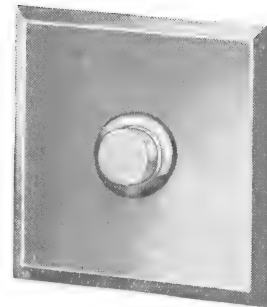
Cat. No.	Dimensions.	Weight.	Price each	
L 3873	ins. Rim $1\frac{3}{8}$ Barrel $\frac{1}{2}$	oz.	s.	d.
		1	2	0
L 3228	$2 \times 1\frac{1}{4} \times 1\frac{5}{16}$ To top of thread.	2 $\frac{1}{4}$	3	9



**L 3228**

Base of black Bakelite.

Catalogue No.	Dimensions.	Weight. Plate only.	Price each. Plate only.	
	inches.	ozs.	s.	d.
L 4094	3 x 3	2	3	0



**L 4094**

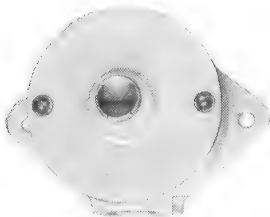
Bevelled plate-glass plate only.\*  
For pushes see L 3873,  
L 4059 and L 3228



**L 4059**

Brass flush push ; ebonite  
back ; nickel silver springs ;  
silver contact.

Catalogue No.	Dimensions.	Price each.	
L 4059	ins. $2\frac{5}{16}$ overall $\frac{3}{4}$ from base to top of thread.	s.	d.
		3	0



**L 4030**

Iron cased watertight bell  
push for outside use.

## WATERTIGHT PUSH

Cat. No.	Dimensions.	Weight.	Price each.	
L 4030	ins. $3\frac{1}{4} \times 2\frac{1}{16} \times 1\frac{1}{8}$	ozs. 8	s.	d.
			8	3

\* For Metal Plates see pages 664 to 666

## DOOR BELL PUSHES

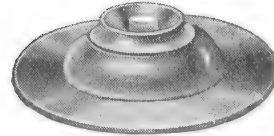
### BRASS TYPE



**L 4021/3**

Polished brass with ebonite back, ivory plunger, front to unscrew, best silver-pointed springs.

Cat. No.	Dimensions.	Weight.	Price each.	
	ins.	ozs.	s.	d.
L 4021	2	1½	2	9
L 4022	2½	3½	3	3
L 4023	3	4½	4	0



**L 4005/8**

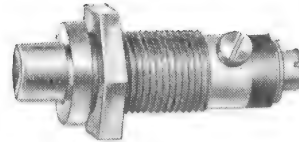
Cast polished brass with screwed ebonite back, china plunger and silver-pointed springs.

Cat. No.	Dimensions.	Weight.	Price each.	
	ins.	ozs.	s.	d.
L 4005	1½	1	2	3
L 4006	2	2	2	6
L 4007	2½	2½	2	9
L 4008	3	3½	3	6

## BARRELS

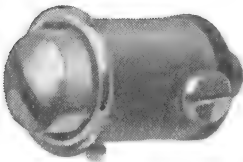
**For converting existing Fronts of Pulls or Pushes,  
or for constructing Multiple Push Boards.**

Cat. No.	Dimensions.	Weight.	Price each.	
L 4325	ins.	ozs.	s.	d.
	1½ × ¾ Diameter of barrel, ½ in.	1½	2	0



**L 4325**

Small barrel push with back nut. Nickel plated.



**L 4328**

Small barrel push with bright brass plunger.

Cat. No.	Dimensions. Overall.	Weight.	Price each.	
L 4328	ins.	ozs.	s.	d.
	1½ × ¾ Diameter of barrel, ¾ in.	1½	2	0

Cat. No.	Dimensions.	Weight.	Price each.	
L 4326	ins.	ozs.	s.	d.
	2 × 1 ⅞ Diameter of barrel, 1 ⅞ in.	3	3	0
L 4327	ins.	ozs.	s.	d.
	2 × 1 ⅞ Diameter of barrel, ⅞ in.	2	2	9



**L 4326**

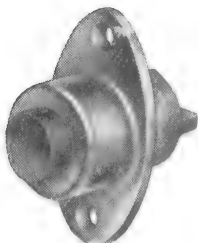
For Metal Plates see pages 664 to 666.

# S.E.C.

## BAKELITE BARREL AND HIGH VOLTAGE BELL PUSHES

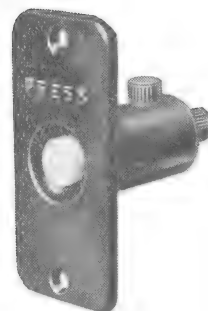


**L 4049/50**



**L 4053**

"MAGNET" Bakelite Barrel Pushes have a very high insulation resistance, and are therefore most suitable for H.V. circuits.

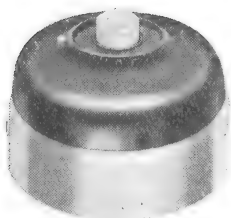


**L 4051/2**

Cat. No.	Dimensions.	Weight.	Price each.	
			s.	d.
L 4049	inches. 2½	ozs. 1½	3	0
L 4050	3	1½	3	3
L 4051	3 × 1	1½	3	0
L 4052	3 × 1½	1½	3	3
L 4053	2½ × 1½ × 1½	2½	6	0

## HIGH VOLTAGE BELL PUSHES

TO MATCH VARIOUS PATTERNS OF "LANDOR" AND "SLICK" SWITCHES



**L 4107**

Bakelite Cover.  
Diameter, 2½".  
Projection, 1½".



**L 4109**

Bakelite Cover.  
Diameter over flange, 2½".  
Diameter under flange, 2⅞".  
Depth under flange, ⅞".  
Fixing centres, 1½".



**L 4111**

With Bakelite Fixing Ring.  
Diameter of base, 2".  
Fixing centres, 1½".  
Height to flange of fixing ring, 1½".

Cat. No.	Type.	Finish.	Weight.	Price each.	
			ozs.	s.	d.
L 4107	Surface	Brown Bakelite Cover Cream Base	4	2	0
L 4109	Semi-recessed	Brown Bakelite Cover Cream Base	3½	2	3
L 4111	Flush	Porcelain Base (with Bakelite fixing ring)	2½	2	3

## BURGLAR ALARM CONTACTS

### L 4601

Brass base, with German silver spring and ebonite plunger.

Cat. No.	Dimensions.	Weight.	Price each.	
	inches.	ozs.	s.	d.
<b>L 4601</b>	$4 \times \frac{1}{2} \times \frac{1}{2}$	2	<b>2</b>	<b>0</b>



**L 4601**

### L 4603

Brass base, with German silver spring and brass ball rubbing contact.

Cat. No.	Dimensions.	Weight.	Price each.	
	inches.	ozs.	s.	d.
<b>L 4603</b>	$4\frac{1}{2} \times \frac{1}{2} \times 1$	$2\frac{1}{2}$	<b>2</b>	<b>3</b>

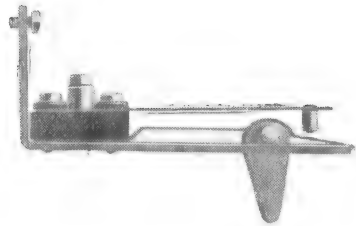


**L 4603**

### L 4609

Brass base two-way **Door Alarm**. Rings when door is opened or shut ; rubbing contact.

Cat. No.	Dimensions.	Weight.	Price each.	
	inches.	ozs.	s.	d.
<b>L 4609</b>	$3\frac{1}{2} \times 1\frac{1}{2} \times 1\frac{1}{2}$	$1\frac{1}{2}$	<b>2</b>	<b>0</b>

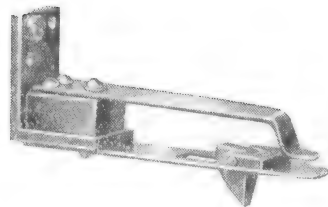


**L 4609**

### L 4612

Brass base one-way **Door Alarm**. Rings when door is opened ; rubbing contact.

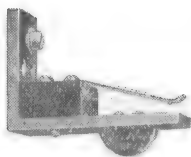
Cat. No.	Dimensions.	Weight.	Price each.	
	inches.	ozs.	s.	d.
<b>L 4612</b>	$3\frac{1}{2} \times 1\frac{1}{2} \times \frac{1}{2}$	$2\frac{1}{2}$	<b>2</b>	<b>9</b>



**L 4612**

# S.E.C.

## BURGLAR ALARM CONTACTS



**L 4611**

### L 4611

Brass base two-way **Door Alarm**. Rings when door is opened or shut ; rubbing contact.

Cat. No.	Dimensions.	Weight.	Price each.	
<b>L 4611</b>	inches. $2 \times 1\frac{1}{2} \times \frac{7}{8}$	ozs. <b>2</b>	s. <b>2</b>	d. <b>9</b>

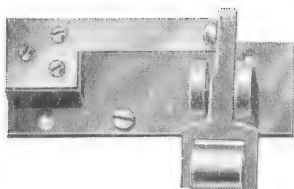


**L 4607**

### L 4607

Closed circuit contact, with German silver springs on brass base.

Cat. No.	Dimensions.	Weight.	Price each.	
<b>L 4607</b>	inches. $4\frac{1}{2} \times \frac{3}{4} \times \frac{1}{2}$	ozs. $2\frac{1}{2}$	s. <b>4</b>	d. <b>6</b>

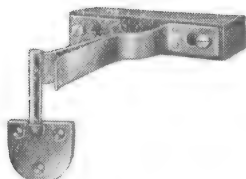


**L 4613**

### L 4613

Brass base roller **Door Alarm**. Rings when door is opened.

Cat. No.	Dimensions.	Weight.	Price each.	
<b>L 4613</b>	inches. $2\frac{1}{2} \times 1\frac{1}{2} \times 1$	ozs. $2\frac{1}{2}$	s. <b>4</b>	d. <b>3</b>



**L 4614**

### L 4614

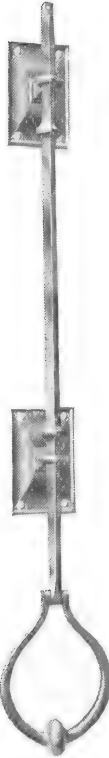
Ebonite base **Door Alarm**. Rings when door is opened or shut.

Cat. No.	Dimensions.	Weight.	Price each.	
<b>L 4614</b>	inches. $3\frac{3}{8} \times 3\frac{3}{8} \times \frac{1}{2}$	ozs. $2\frac{1}{2}$	s. <b>3</b>	d. <b>3</b>

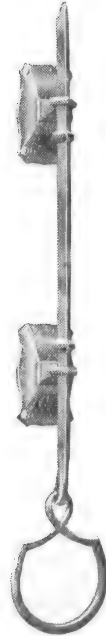
**GATE BELL PULLS**



**L 4503**  
Iron ; Berlin blacked.  
Length 20 ins.  
**7/9** each.



**L 4510**  
Iron ; Berlin blacked.  
Length 27 ins.  
**12/-** each.



**L 4511**  
Iron ; Berlin blacked.  
Length 24 ins.  
**11/-** each.



**L 4512**  
Crank operating contact  
in watertight barrel for  
use with above pulls.  
Iron ; Berlin blacked.  
**10/-** each.



**L 4523**  
Pull converter contact for  
converting existing crank  
bell pulls for electric  
operation.  
**4/9** each.

*NOTE—Prices of L 4503/11 pulls do not include cost of Cranks L 4512, which should be added in each case.*

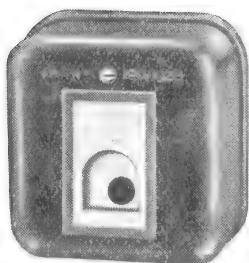
**Extra.**—Black iron chain suitable for use with above pulls, Cat. No. L 4515, **9d.** per foot.

**S.E.C.**

## BAKELITE UNIT PENDULUM INDICATORS

(Patent No. 190/1920)

**Specification**—The unit indicator comprises an improved pattern pendulum movement mounted on a Bakelite base complete with brass-screwed fixing bolts and nuts, which also form the connecting terminals; and spot swings for a long period after the coil has been energized.



**L 3208**

Cat. No.	Resistance.	Overall dimensions.	Weight.	Price each.	
	ohms.	inches.	ozs.	s.	d.
<b>L 3208</b>	2.3	2 × 2	2	<b>2</b>	<b>6</b>

## METAL CASED UNIT HAND REPLACEMENT

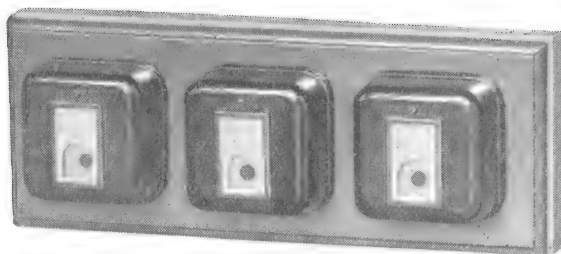
**Specification**—This unit comprises an improved shutter type hand replacement indicator movement. It has a drawn metal case, black enamelled, with brass fixing bolts and nuts, which also form the connecting terminals.



**L 3209**

Cat. No.	Resistance.	Overall dimensions.	Weight.	Price each.	
	ohms.	inches.	ozs.	s.	d.
<b>L 3209</b>	4	2 × 2	4	<b>3</b>	<b>6</b>

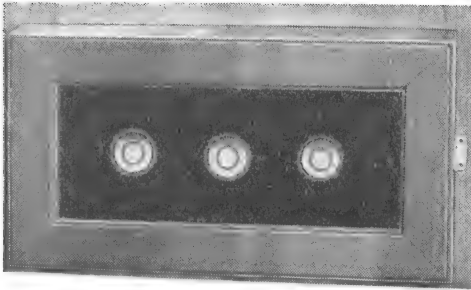
By using a number of the units described above it is possible to construct indicators of various numbers of ways, as shown in illustration below, in a smaller space than the standard multi-way indicator and to suit special conditions which the latter cannot meet.



**Triple Indicator Unit.**



# PENDULUM INDICATORS



**L 3201**



**Specification**—Polished imitation teak cases ; real teak moulding ; black and gold glass screens ; fitted with L **3181** " Lancashire " movement, wound to 5 ohms.

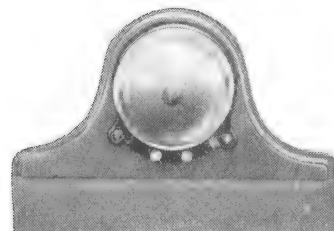
No. of Ways.	L 3201 Imitation Teak Case. Price per Way.	L 3202 Real Teak Case. Price per Way.	Approx. Weight.	Arrangement.	Approx. dimensions of back board.
	s. d.	s. d.	lbs.		inches.
2	<b>3 3</b>	<b>4 3</b>	2½	One row	10½ × 7½ × 3
3			3	"	12½ × 7½ × 3
4			3½	"	15½ × 7½ × 3
5			4½	"	17½ × 7½ × 3
6			4½	Two rows	12½ × 10½ × 3
7			5	"	15½ × 10½ × 3
8			5½	"	15½ × 10½ × 3
9			6	"	17½ × 10½ × 3
10			6½	"	17½ × 10½ × 3
11			7½	"	20½ × 10½ × 3
12			8	"	20½ × 10½ × 3
14			—	Three rows	17½ × 13½ × 3
16			—	"	20½ × 13½ × 3
18			—	"	20½ × 13½ × 3
20			—	"	22½ × 13½ × 3
22			—	Five rows	17½ × 19½ × 3
24			—	"	17½ × 19½ × 3

## EXTRAS

Writing names of rooms on Screen .. ..  
 Writing Name and Address only .. ..  
 Name and Address on fully written screen  
 Fitted with L **3277** Bell (see below) ..  
 " " Zinc Screen .. ..

Price on application.  
 " " "  
**8s. 6d.** extra.  
**6d.** per way extra.

Cat. No.	Gong	Description.	Dimen- sions.	Weight.	Price each.
L <b>3277</b>	ins. 3	Circular Bell mounted on polished teak backboard ..	ins. 7¼ × 5½	lbs. 1½	s. d. <b>8 6</b>

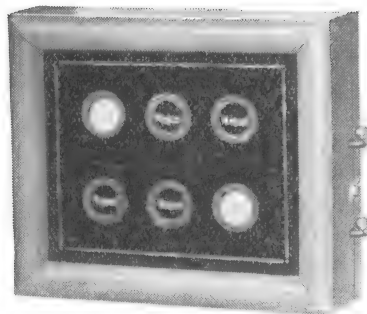
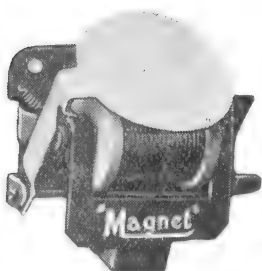


**L 3277**

# S.E.C.

## MECHANICAL REPLACEMENT INDICATORS

AS SUPPLIED TO GOVERNMENT DEPTS. AND RAILWAYS



L 3212

**Specification**—Highly polished real teak cases, dovetailed together, with hinged front; movements of the improved MAGNET mechanical replacement type, wound with enamelled copper wire to a resistance of 5 ohms. This replacement device is of the rotary type, and is constructed to prevent damage to the flags. These indicators are not in any way affected by vibration. Each movement is a separate unit, and can easily be replaced if necessary.

L 3212 Fitted with Black and Gold Glass Front.				L 3215 Fitted with Enamelled Zinc Screen.				Weight.	Arrangement.	Dimensions of Backboard.	
No. of Ways.	Price per Way.		Price per Way.		lb.	oz.	Right to Left.			Top to Bottom.	
	s.	d.	s.	d.			ins.			ins.	
2	}	6	6	7	0	2	0	One row	7	5	
3						2	8		"	9	5
4						3	0		"	11	5
5						3	8		"	13	5
6						3	12		2×3	9	7½
7						4	10	1×4 and 1×3	11	7½	
8						4	12	2×4	11	7½	
9		6	0	6	6	5	4	1×5 and 1×4	13	7½	
10						5	8	2×5	13	7½	
11						6	0	1×6 and 1×5	15	7½	
12					6	4	2×6	15	7½		
14					6	12	2×7	17	7½		
16	}					9	0	1×6 and 2×5	16	11	
18						9	2	3×6	16	11	
20						9	12	2×7 and 1×6	18	11	
22		5	9	6	3	—	—	3×6 and 1×4	16	13½	
24						—	—	4×6	16	13½	

Larger Sizes—Prices on application.

Chain Pull Down Replacement can be fitted at extra charge.

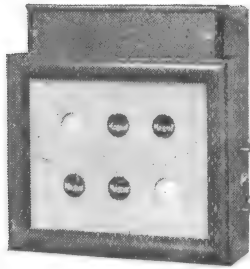
### EXTRAS

Writing names of rooms on Screen ..  
 Writing Name and Address only .. ..  
 Name and Address on fully written screen ..  
 Fitted with L 3277 Bell (see page 777) ..  
 " " Zinc Screen .. ..

Price on application.  
 " " "  
 " " "  
**8s. 6d. extra.**  
**6d. per way extra.**

## MECHANICAL REPLACEMENT INDICATORS

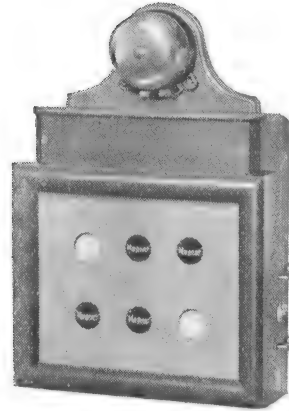
WITH TERMINAL CHAMBERS



L 3216

**Specification**—Highly polished dust-proof real teak wood cases, dovetailed together, with hinged front; covered in terminal chamber at the top. Movement of the improved MAGNET mechanical replacement type, wound with enamelled copper wire to a resistance of 5 ohms. The replacement device is of the MAGNET rotary type, constructed to prevent damage to the flags. Flags cannot be shaken down

by vibration. Each movement is a separate unit, and can be easily replaced if necessary. Most suitable for ship bell installations.



L 3216 with L 3277 Bell.

No.	L 3214 Fitted with Black and Gold Glass Front.	L 3216 Fitted with Enamelled Zinc Screen.	Arrangement.	Dimensions of Backboard.	
	Price per Way. s. d.	Price per Way. s. d.		Right to Left. inches.	Top to Bottom. inches.
2	8 3	8 9	One row	7	7 <sup>1</sup> / <sub>16</sub>
3			"	9	7 <sup>1</sup> / <sub>16</sub>
4			"	11	7 <sup>1</sup> / <sub>16</sub>
5			"	13	7 <sup>1</sup> / <sub>16</sub>
6			2×3	9	9 <sup>1</sup> / <sub>16</sub>
7			1×4 and 1×3	11	9 <sup>1</sup> / <sub>16</sub>
8			2×4	11	9 <sup>1</sup> / <sub>16</sub>
9			1×5 and 1×4	13	9 <sup>1</sup> / <sub>16</sub>
10			2×5	13	9 <sup>1</sup> / <sub>16</sub>
11			1×6 and 1×5	15	9 <sup>1</sup> / <sub>16</sub>
12	8 0	8 6	2×6	15	9 <sup>1</sup> / <sub>16</sub>
14			2×7	17	13 <sup>1</sup> / <sub>16</sub>
16			1×6 and 2×5	16	13 <sup>1</sup> / <sub>16</sub>
18			3×6	16	13 <sup>1</sup> / <sub>16</sub>
20			2×7 and 1×6	18	15 <sup>1</sup> / <sub>16</sub>
22			3×6 and 1×4	16	15 <sup>1</sup> / <sub>16</sub>
24			4×6	16	15 <sup>1</sup> / <sub>16</sub>

Larger Sizes—Prices on application.

Chain Pull Down Replacement can be fitted at extra charge.

### EXTRAS

Writing names of rooms on Screen .. ..  
 Writing Name and Address only .. ..  
 Name and Address on fully written screen ..  
 Fitted with L 3277 Bell (see page 777) ..  
 " " Zinc Screen .. ..

Price on application.

" " "

8s. 6d. extra.

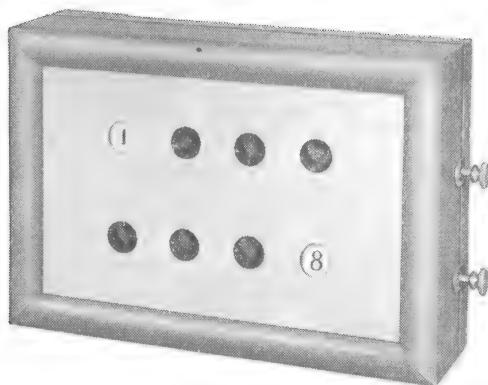
6d. per way extra.

# S.E.C.

## MECHANICAL REPLACEMENT INDICATORS

FOR SHIPS, LIFTS, HOTELS AND DOMESTIC INSTALLATIONS

Patent No. 21965/13. Regd. Design 626048



**Specification** — Real teak case, dovetailed together, with hinged front; movements of the "Gripit" type, wound with enamelled copper wire to a resistance of 4 ohms; the replacement device is arranged to prevent damage to the flags. The screen is of zinc, painted grey. The movements are mounted on fibre in standard strips of 2, 3, 4 or 5. The flags cannot be shaken down by vibration.

**L 3218**

Number of Ways.	Price			Arrangement.	Weight.	Dimensions Right to Left.	Dimensions Top to Bottom.
	£	s.	d.		lbs. oz.	ins.	ins.
2	1	5	0	One Row	2 8	10½	4½
3	1	10	0		3 12	10½	4½
4	1	12	0		3 0	10½	4½
5	1	15	0	"	3 2	10½	4½
6	2	2	0	2 × 3	4 2	10½	6½
8	2	12	0	2 × 4	4 8	10½	6½
10	3	0	0	2 × 5	4 12	10½	6½
12	3	6	0	3 × 4	6 0	10½	9
15	4	2	6	3 × 5	6 4	10½	9
20	5	10	0	4 × 5	8 0	10½	11½
25	6	17	6	5 × 5	10 0	10½	13½

Chain Pull Down Replacement can be fitted at extra charge.

### Prices for Electrical Replacement Indicators on application.



**L 3219**

**Mechanical Replacement Indicator Unit** on fibre base with replacement rod. This is particularly useful for making lift and similar indicators, for which only a limited space is available.

Price .. .. . 4 s. 6 d. each.  
Size of Base, 2 ins. wide, 2½ ins. deep.

### EXTRAS

Writing names of rooms on Screen .. ..  
Writing Name and Address only .. ..  
Name and Address on fully written screen .. ..  
Fitted with **L 3277** Bell (see page 777) .. ..  
" " Zinc screen .. ..

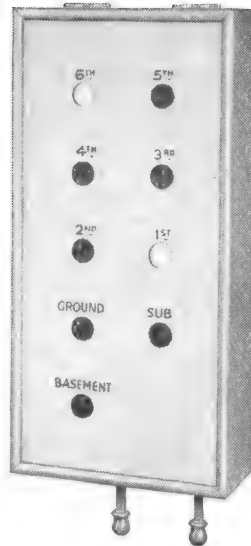
Price on application.  
" " "  
" " "  
**8s. 6d.** extra.  
**6d.** per way extra.

## LIFT INDICATORS

MECHANICAL REPLACEMENT AND LUMINOUS PATTERNS



**L 3235**



**L 3236**



**L 3238**

**L 3235 Specification**—Highly polished mahogany or oak case, with black and gold glass screen; movements of the improved MAGNET mechanical replacement type, wound with enamelled insulated copper wire to a resistance of 5 ohms.

**L 3236 Specification**—Highly polished teak case, with zinc screen and plain glass front; movements of the "Gripit" type, wound with enamelled insulated copper wire to a resistance of 4 ohms.

The replacement device in this pattern, as well as the L 3235 above, is arranged to prevent damage to the flags by rough usage. The flags cannot be shaken down by vibration.

Catalogue No.	No. of Ways, Vertical.	Price per Way.	
L 3235	3, 4, 5, 6, 7, 8	s.	d.
		11	0
L 3236	4 to 6 one row, 8 and 10 two rows	11	3

Fitted with Circular Bell, 6s. 9d. extra. Lettering, per Way—price on application.

### LUMINOUS LIFT INDICATOR

**L 3238** The use of the MAGNET Luminous Lift Indicator in passenger lifts confers so many obvious advantages over the ordinary drop shutter type, that it would be superfluous to enumerate them. The MAGNET Luminous Lift Indicator, with its combined lamp and relay switch, represents the latest development in this direction.

**Prices and Full Details on application.**

## **LUMINOUS SERVICE INDICATOR SYSTEM**

**FOR HOTELS, SHIPS, RAILWAY CARS, HOSPITALS, NURSING HOMES, PUBLIC INSTITUTIONS, ETC.**

It is a recognised fact that in many hotels, hospitals, public institutions, corridor trains and ocean-going passenger ships, the old types of electric service call systems do not conform to modern standards of promptitude and reliability. The MAGNET Luminous Service Indicator System has been designed to meet the demand for more efficient methods and accelerated service. It eliminates all drop-shutters, pendulum and other types of indicators hitherto used.

The essence of this System is the MAGNET combined lamp and relay switch, Fig. 1. This relay switch, when electrically operated by means of a call push, closes certain contacts and completes the circuits of various indicating lamps. When the call push circuit is opened, these indicating lamp circuits remain closed, since the contacts of the relay switch can be separated only by pressure on the lamp cap, which is itself an integral part of the relay switch.

In the MAGNET relay switch the energising current, which flows when a call push circuit is closed, is used simply to release the lock mechanism which normally keeps the lamp contacts apart. When so released, no further current need flow in the push circuit, and overheating of the relay operating coil is thus impossible. In alternative systems of electrically locking relays a common defect is the overheating of relay coils, with consequent trouble, if not actual damage to property. The combined lamp and relay switch may be supplied in combination with an indicator lamp in units of one, two, or three ways for individual calls to maid, waiter, or valet, distinctive colours being employed for the different ways.

### **DESCRIPTION OF THE APPARATUS**

For illustrations see pages 784 and 785.

Fig. 1 (L **3220**). Illustrates the combined lamp and relay switch. The coil when energised attracts the armature and allows the metal tube which contains a lamp to push forward and automatically lock the armature in position, an arm pushing the bank of four contact springs together and thereby closing the various lamp circuits. When the lamp cap is pressed down, the armature is released and the contact springs broken, thus replacing the movement to normal.

Fig. 2 (L **3222**). Illustrates a one-way unit complete, but without the thin metal cover.

Fig. 3 (L **3222**). Illustrates a two-way unit complete, with thin metal cover.

Fig. 4 (L **3228**). Illustrates a one-way call push and whilst any high-grade bell push may be used, the type illustrated is recommended, as being of robust and sound construction both mechanically and electrically.

Fig. 5 (L **3223**). Illustrates a one-way group lamp fitting. Other designs to suit requirements can be supplied.

Fig. 6 (L **3226**). Illustrates a 4-way luminous section indicator complete with relay and buzzer.

# **LUMINOUS SERVICE INDICATOR SYSTEM**

*(continued from previous page).*

## **HOW THE SYSTEM OPERATES IN HOTELS.**

Each visitor's room is provided with a one, two or three-way bell push to summon the servant required, *i.e.*, maid, waiter or valet. Outside each door in the corridor a relay switch (Figs 2 and 3) is fitted, provided with one, two or three lamps of different colours.

For convenience, each floor can be divided into sections, each section consisting of a certain number of rooms, and for each such section a group indicator is provided. This group indicator would be in the form shown in Fig. 5, and fitted in such a position as to be readily seen by the servant. In the maid's, waiter's and valet's serveries section, indicators are fitted to receive such signals as call for their particular attention (Fig. 6). If desired, a supervisory or master lamp indicator can be fitted in the reception office to indicate the calls from every floor.

Audible signals are given in the serveries and repeated where otherwise required, and for this purpose the L **2045** Bakelite Bell or L **3056** Bakelite Buzzer specially wound should be installed. If the maid is in her servery, the bell calls attention, and the lamp indicator shows her from which group or section the call originated. Should she, however, be temporarily absent from the servery, she need not return there, as on hearing the bell or buzzer she will glance at the group indicators in the corridor and at once see in which direction her presence is required. Proceeding to the particular group indicated she will then see the coloured lamp on the combined lamp and relay switch indicating the particular room calling. Before entering the room she presses the coloured lamp cap of the combined lamp and relay switch and thereby extinguishes the lamps relating to this particular call. In the event of there being more than one call given simultaneously from the same section, the lamp of the group fitting and the lamp in the servery remain alight until the last call in that particular section has received attention.

Portable Buzzers can be supplied to provide against the contingency of a servant not hearing the call bell through being engaged in a visitor's room. A pocket or portable buzzer is carried by the servant who, while engaged in a room, plugs it into a wall socket specially provided. Thereafter any call for this servant is sounded on the buzzer in the room as well as on the corridor bells, etc.

## **THE SYSTEM ADAPTED FOR RAILWAY CARS**

The use of the MAGNET Luminous Service Indicator in the dining saloons and sleeping cars on long distance passenger trains serves to accelerate and improve the service of car attendants, and at the same time gives passengers a visual indication that their calls have been registered. At the side of each table in the dining saloon a call push and lamp relay switch are fitted, and similarly at the side of all sleeping berths a push, and outside the door a lamp relay switch, are installed. On operating the push at one or more tables, or in a sleeping berth, the call is immediately recorded in the Servery Compartment. The attendant, on entering the dining saloon or sleeping car sees at a glance, by the glowing lamp or lamps, where his services are required. As he attends to each call thus indicated he presses the lamp cap of the combined lamp and relay switch and the lamp of that

## **LUMINOUS SERVICE INDICATOR SYSTEM**

*(continued from previous page).*

particular call is at once extinguished, but all other lamps indicating calls which are so far unanswered remain aglow. The section indicator lamp in the servery remains glowing as long as any call in the saloon or sleeping car still requires attention.

As the normal working pressure of this system is 24 volts its operation by connecting up to the storage batteries working the electric light installation is a simple matter.

The MAGNET Luminous Service Indicator System, adapted for Marine Work, indicating Steward and Stewardess, has been very successfully installed in several of the larger and more up-to-date overseas passenger lines of steamers, including the "Empress of Japan," "Empress of Britain," "Warwick Castle," "Britannic," "Monarch of Bermuda." It is also functioning successfully at the Savoy Hotel, London, Claridge's Hotel, London, Carlton Hotel, Johannesburg, Royal Westminster Ophthalmic Hospital, London Clinic, London, "Daily Express," L.M. & S. Rly., Euston House, London, Glyn Mills Bank, London, St. Joseph's Hospital, Preston, East Suffolk and Ipswich Hospital, Royal Masonic Hospital, London, Monaghan County Hospital, Ireland, Barton House Nursing Home, Stockton-on-Tees, South Africa House, London, Saunton Sands Hotel, etc.

The flexibility of the MAGNET Luminous Indicator System makes possible innumerable alternative arrangements for signalling purposes, and architects, electrical contractors and interested parties are counselled to place themselves in communication with the Bell and Telephone Dept. of the G.E.C., whose technical representatives are always available for advice and consultation, without charge or obligation, regarding any scheme which may be contemplated.

**Prices on application.**

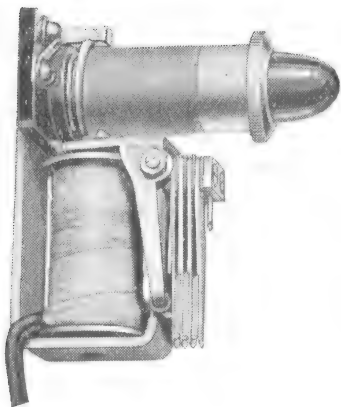


Fig. 1. L 3220

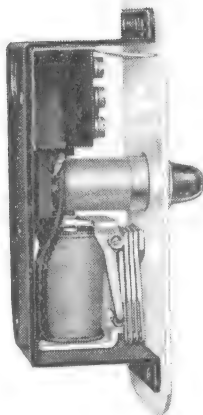


Fig. 2. L 3222  
(1-way).

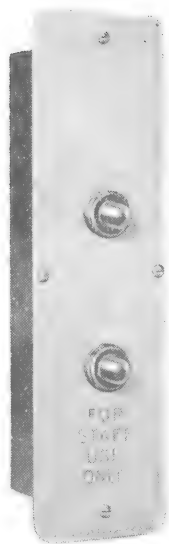


Fig. 3. L 3222  
(2-way).



# LUMINOUS SERVICE INDICATOR SYSTEM

(continued)

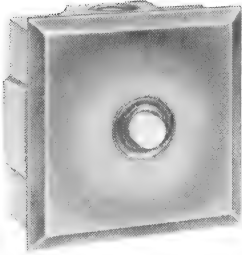


Fig. 4. L 3228

A one - way Bell Push. Mounted in a cast iron box with metal front plate and fixing ring.

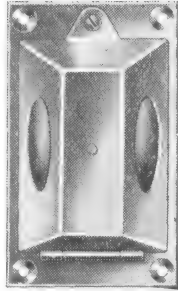
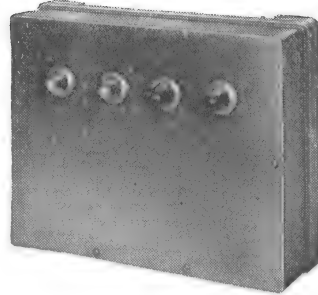
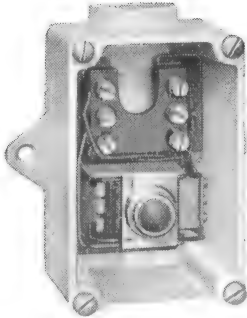


Fig. 5. L 3223  
Group Indicator.



L 3226

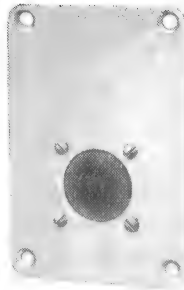
Fig. 6. A four-way luminous section Indicator, complete with Relay and Buzzer.



L 3232

Weather and damp-proof Button Type Relay Switch only, without lamp. Mounted in Iron Box, the cover having a rubber disc over the push button.

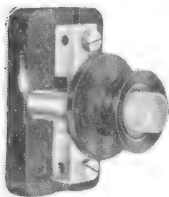
Overall size of box  $4'' \times 3\frac{1}{2}'' \times 2\frac{1}{2}''$ .



L 3230

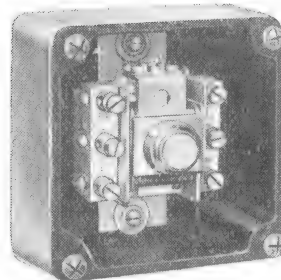
Surface Pattern Push Button Type Relay Switch only, without lamp. Mounted in Ronoid case.

Size  $4\frac{1}{2}'' \times 2\frac{1}{8}'' \times 2''$



L 3228

As illustrated in Fig. 4 above, with front plate removed. Base of black Bakelite.



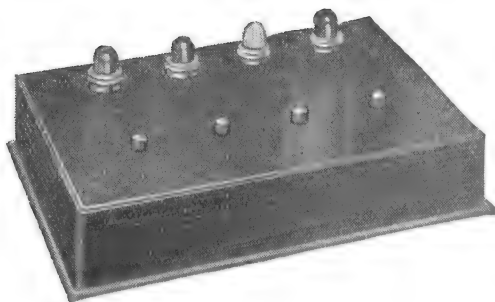
L 3231

Flush Pattern Push Button Relay Switch only, without lamp. Mounted in iron box. (Cover removed.)

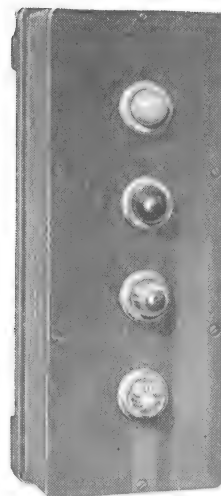
Size  $3\frac{1}{8}'' \times 3\frac{1}{8}'' \times 1\frac{1}{2}''$



## LUMINOUS INDICATOR SYSTEM FOR OFFICE CALLS



**L 3031**



**L 3032**

In spite of the high standard of efficiency attained in recent years in the organisation of large staffs of commercial and industrial undertakings, constant changes are necessary to bring such organisations into line with modern progress. Reliable systems of instantaneous communication or call between directors and managers with departmental heads and assistants are vitally necessary in an age where speed, precision and punctuality are important factors of efficient organisation.

The MAGNET Luminous Indicator System for office calls is particularly adaptable for use in large commercial and industrial houses, as the unit system of its construction provides for as many signals or calls as particular circumstances may require. The two principal components used in this system are illustrated on this page. The Table Push Indicator (L **3031**) is placed on the desk or wall in the Director's or Manager's office and the Luminous Call Indicator (L **3032**) is installed in a prominent position in an outer office. If required, a single lamp indicator can be placed in each of a series of separate offices.

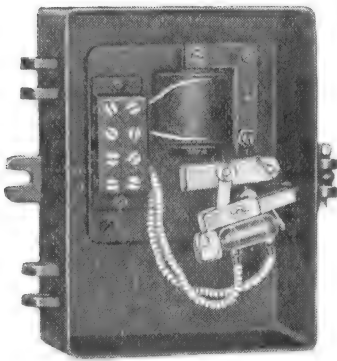
This Office Call Indicator System is quite simple in its operation. Upon the Director or Manager pressing the button on his Push Indicator (L **3031**) allocated to the particular individual whose presence he requires, a buzzer and a coloured lamp indicate the person wanted by means of a glow on the L **3032** indicator in his office; simultaneously the corresponding lamp glows on the desk indicator L **3031**. When the person answers the call, the Director or Manager depresses the lamp cap on the L **3031**, and so reinstates the circuit for the call. Should, however, the call not be answered, owing to the absence of the person required, the Director or Manager can either cancel the call, or leave the lamp glowing, so that it is seen by the person wanted on his return to his office, or as an alternative it can be arranged for the circuit to be reinstated at the indicator in the General Office.

**Prices on application**

## RELAYS

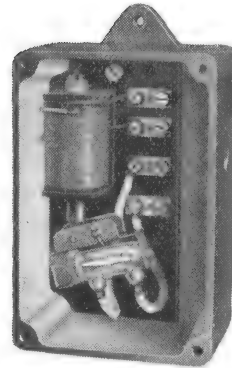
**FOR CLOSING OR BREAKING LOCAL HIGH OR LOW VOLTAGE CIRCUITS.**

**FOR USE WITH TIME SIGNALS, FIRE ALARMS, BURGLAR ALARMS, ETC.**



**L 3132**

Mercury Contact A.C. Relay.



**L 3134**

Mercury Contact D.C. Relay.

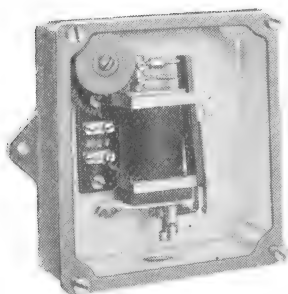
**L 3132** This Relay is designed to operate on A.C. Circuits and is fitted with a Mercury Tube Local Contact to make and break a maximum current of 6 amps. on any voltage up to 250 Volts, without burning the contacts. The coil can be wound suitable for any specified voltage from 12 to 250 Volts. The movement and line terminals are well insulated and mounted in a cast iron box with lid. While the Standard Relay makes circuit upon the coil being energized, it can, if specially asked for, be arranged to break circuit. A continuous action contact with hand replacement can be supplied. Mercury Tube Contacts for higher amperage are available at an additional charge.

**L 3134** This Relay is designed to operate on D.C. Circuits; the movement being of the solenoid type, the coil can be wound suitable for any specified voltage from 6 to 250 Volts. In all other respects it is the same as the **L 3132** Relay.

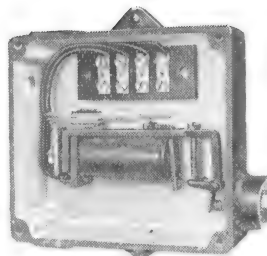
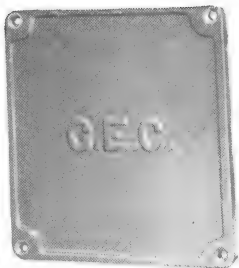
Catalogue No.	Description.	Price each.		
		£	s.	d.
<b>L 3132</b>	Cast Iron Case and Front. A.C. Relay with Mercury Tube contact, coils wound for any specified voltage from 12 to 250 Volts	<b>5</b>	<b>5</b>	<b>0</b>
	Extra for continuous action movement ..		<b>17</b>	<b>6</b>
<b>L 3134</b>	D.C. Relay with Mercury Tube contact, coils wound for any specified voltage.			
	From 6 to 110 Volts .. ..	<b>4</b>	<b>7</b>	<b>6</b>
	From 110 to 250 Volts .. ..	<b>5</b>	<b>5</b>	<b>0</b>
	Extra for continuous action movement ..		<b>17</b>	<b>6</b>

## RELAYS

FOR VISUAL AND AUDIBLE SIGNALS



**L 3131**



**L 3135**  
Auto-Locking Relay.

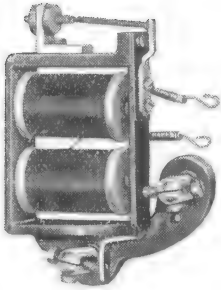
**L 3131** This all metal type of Relay is of robust construction. The armature is fitted with a double contact spring, the contacts being in parallel for the purpose of reducing sparking to a minimum. All contact points are tungsten tipped and are suitable for making and breaking a current of 150 watts lamp load. The movement is well insulated and mounted in an iron box with lid.

**L 3135** This Relay is of the continuous action type, mounted in a cast iron box with lid, with a press button replacement movement fitted on the right hand side. It is specially recommended for use with Magneto or Battery ringing telephones where a visual or a loud audible signal is required in addition to the ordinary telephone instrument bell. The local contact springs are designed to make and break a current of 60 watts lamp load on any voltage up to 250 Volts. The resistance of the standard winding is 1,300 ohms; it can, however, be specially wound for any voltage up to 110 Volts A.C. or D.C. and the local contacts can be reversed to break a circuit when the coil is energized. These additional requirements would involve an extra charge.

Catalogue No.	Description.	Price each.		
		£	s.	d.
<b>L 3131</b>	Cast Iron Case and Front.			
	Relay to make contact when coil is energized.			
	Voltages up to 12 Volts D.C. . . . .	4	4	0
	" " 110 " " . . . . .	5	6	0
	" " 250 " " . . . . .	5	19	0
	Extra for continuous movement . . . .		12	6
	Relay wound for continuous rating, to break contact when coil is energized.			
	For 110 Volts D.C. . . . .	5	19	0
	From 110 to 250 Volts D.C. . . . .	6	12	0
	Extra for winding coils for A.C. . . . .		12	6
<b>L 3135</b>	Continuous action Relay wound to 1,300 ohms	2	10	0
	Specially wound for any Voltage up to 110 Volts A.C. or D.C. . . . .	3	5	0
	Extra for Contacts arranged to break contact when energized . . . . .		5	0

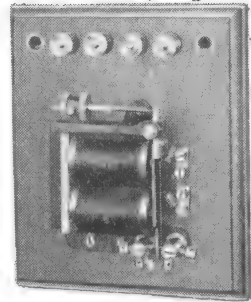
# BATTERY OPERATED RELAYS

FOR CLOSING LOCAL CIRCUITS



**L 3101 and L 3111**

Standard pattern for use in short lines or for indicators, etc.



**L 3102/6 and L 3112/16**

High resistance type for use in long lines.  
Best finish, mounted on brass base and fitted with silver contacts.

## SKELETON

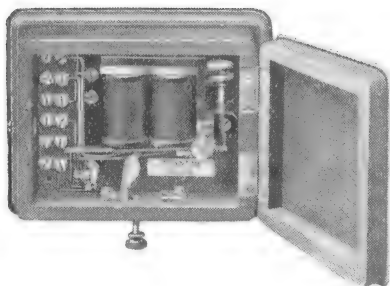
Catalogue No.	Resistance.	Weight.	Dimensions.	Price each.
	Ohms.	lbs. ozs.	inches.	£ s. d.
<b>L 3101</b>	5	8	4×3×1	<b>6 9</b>
<b>L 3102</b>	10	1 2	4×3×1	<b>17 6</b>
<b>L 3103</b>	25	1 2	4×3×1	<b>1 0 0</b>
<b>L 3104</b>	50	1 2	4×3×1	<b>1 1 0</b>
<b>L 3105</b>	100	1 2	4×3×1	<b>1 2 6</b>
<b>L 3106</b>	200	1 2	4×3×1	<b>1 5 0</b>
<b>IN TEAK CASE</b>				
<b>L 3111</b>	5	1 14	6½×5½×2½	<b>16 6</b>
<b>L 3112</b>	10	1 14	6½×5½×2½	<b>1 10 0</b>
<b>L 3113</b>	25	1 14	6½×5½×2½	<b>1 12 6</b>
<b>L 3114</b>	50	1 14	6½×5½×2½	<b>1 15 0</b>
<b>L 3115</b>	100	1 14	6½×5½×2½	<b>1 17 6</b>
<b>L 3116</b>	200	1 14	6½×5½×2½	<b>2 2 0</b>

# S.E.C.

## BATTERY OPERATED RELAYS

FOR CLOSING LOCAL CIRCUITS

### HIGH RESISTANCE CLOSED CIRCUIT RELAY FOR BURGLAR ALARM.

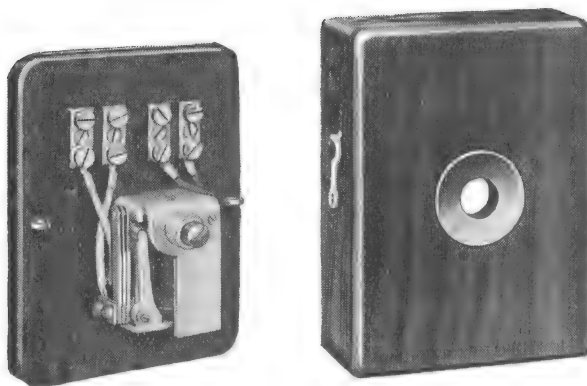


**L 3139**

This closed circuit relay provides a means whereby the person last leaving a building automatically sets the alarm by closing the last contact. The relay consists of an electro-magnet and an armature pivoted at one end. Immediately beneath this is a strut, so fixed that if the plunger beneath is pressed up it causes the strut to lift the armature adjacent to the magnet coils. It is retained in this position until the coils of the relay are energised, when the armature is attracted and the strut released. When a contact is broken or wire cut, the current is cut off from the relay and the armature falls beyond the attraction of the magnet field. Where A.C. Supply is available the Relay Battery can be substituted by a small transformer and Metal Rectifier. A Battery is recommended in all cases for the Alarm Bell circuit.

Catalogue No.	Resistance.	Weight.	Dimensions.	Price each.		
<b>L 3139</b>	ohms. 200	lbs. 2	inches. 6½ × 5 × 3	£	s.	d.
				<b>2</b>	<b>10</b>	<b>0</b>

### CONTINUOUS ACTION HAND REPLACEMENT TYPE.



**L 3130**

For converting one or a number of ordinary trembling bells into continuous type. Relay is replaced by pressing a button and so breaking local circuit. Can be supplied for A.C. or D.C. low voltage supply, and wound to any resistance at an extra charge.

Catalogue No.	Resistance.	Weight.	Dimensions.	Price each.		
<b>L 3130</b>	ohms. 5	ozs. 8	inches. 5 × 2	£	s.	d.
				<b>1</b>	<b>1</b>	<b>0</b>

## BELL TRANSFORMERS

### BAKELITE TYPE.

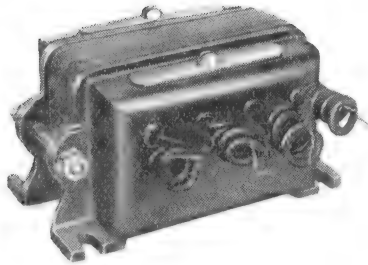
Bakelite cased air-cooled Bell Transformer, giving 4-8-12 volts pressure on the secondary coil for operating low voltage electric bell, buzzer and bell indicators. The primary coil is wound suitable for 100 to 110 or 200 to 250 volts, 40/60 cycles. The primary and secondary winding are arranged on separate bobbins, side by side, with an earth protection, an earthing terminal being provided on the side of the base.

A wiring diagram is affixed to the back of each transformer.



**L 3153**

Catalogue No.	Output.	Overall Dimensions.	Weight.	Price each.	
		inches.	lbs.	s.	d.
<b>L 3153</b>	12 volt .5 amp. 8 volt .6 amp. 4 volt .8 amp.	$3\frac{1}{8} \times 3\frac{1}{8} \times 2$	$1\frac{1}{2}$	<b>8</b>	<b>3</b>



**L 3140**

### IRON CASED TYPE.

Small air-cooled transformers giving a secondary pressure of low voltage suitable for ringing electric bells ; primary and secondary windings separate and well insulated from each other ; earth-shield is fitted, which prevents supply pressure from reaching bell circuit. Secondary tapping provided for 3, 5 and 8 volts, but alternative windings or tappings can be provided to give a choice of pressures. Suitable for primary voltages up to 250 on 50 cycle circuits.

Catalogue No.	Output.	Weight.	Price each.		
	watts.	lbs.	£	s.	d.
<b>L 3140</b>	10	$2\frac{1}{2}$	<b>1</b>	<b>2</b>	<b>6</b>
<b>L 3141</b>	20	4	<b>1</b>	<b>13</b>	<b>9</b>
<b>L 3142</b>	40	5	<b>2</b>	<b>7</b>	<b>3</b>

# S.E.C.

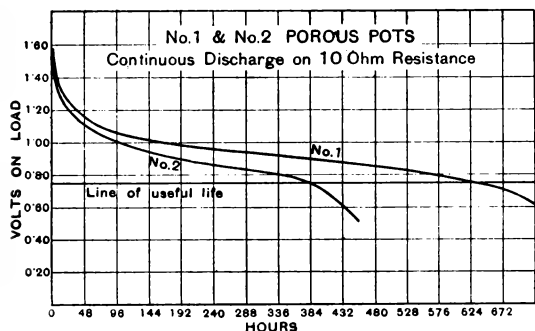
## LECLANCHÉ CELLS

### POROUS POT PATTERN



**L 4801/2**

Complete Cell.



**Specification**—Porous pot of high porosity, thoroughly tested and filled with a mixture of best selected dioxide of manganese and crushed carbon ; positive plates of carbon throughout ; well amalgamated solid drawn zinc rod of 98 per cent. purity, E.M.F. 1.5 volts.

**Directions for Use**—Place porous pot and zinc in glass jar and fill two-thirds with solution of sal-ammoniac, 2 oz. to the pint of water.

Catalogue No.	Description.	Approx. Overall Dimensions.	Approx. Weight.	Price per Dozen.
		inches.	lb. oz.	£ s. d.
<b>L 4801</b>	No. 1. Three pint complete cell without Sal-ammoniac ..	$8\frac{1}{2} \times 4\frac{1}{2} \times 4\frac{1}{2}$	5 2 each	<b>1 17 3</b>
<b>L 4802</b>	No. 2. Two Pint ditto	$7\frac{3}{4} \times 3\frac{5}{8} \times 3\frac{5}{8}$	3 4 each	<b>1 3 9</b>
<b>L 4830</b>	No. 1. Porous Pot only	$7\frac{3}{4} \times 3$	2 9 each	<b>16 6</b>
<b>L 4831</b>	No. 2. Ditto .. ..	$6\frac{3}{4} \times 2\frac{1}{2}$	1 7 each	<b>12 0</b>
<b>L 4835</b>	No. 1. Zinc only ..	$7 \times \frac{1}{2}$	4 3 per doz.	<b>5 9</b>
<b>L 4836</b>	No. 2. Ditto .. ..	$6 \times \frac{7}{16}$	2 11 per doz.	<b>4 0</b>
<b>L 4840</b>	No. 1. Glass Jar only	$7\frac{1}{2} \times 4\frac{1}{2}$	2 4 each	<b>15 0</b>
<b>L 4841</b>	No. 2. Ditto .. ..	$6\frac{1}{2} \times 3\frac{5}{8}$	1 8 each	<b>7 9</b>



## LECLANCHE CELLS

### "CARSAK" PATTERN



L 4885/6  
Complete cell.

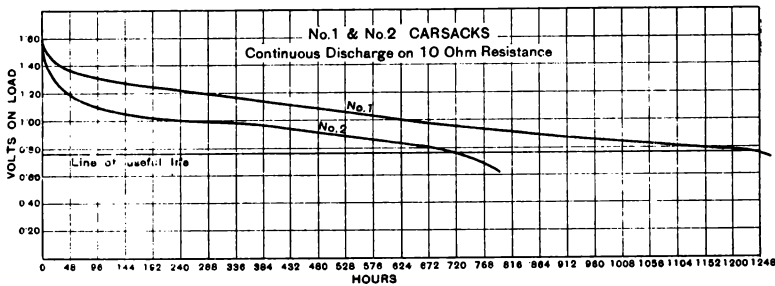


Cut-away Pattern Zinc.



Half-round Zinc.

**Specification**—Positive element consists of a porous sack which surrounds the carefully selected granules of carbon and manganese dioxide, which are very tightly packed. The "pot" is practically unbreakable, and its cylindrical form is maintained by a cap and base of hard material. The zinc is a circular plate of ample dimensions, well amalgamated. "Carsak" cells have a very low resistance, are thoroughly reliable and constant, and have a long life. They are particularly suited for telegraph, telephone, bell and signal circuits, and for all positions where a low resistance Leclanché cell is required.



Catalogue No.	Description.	Approx. Overall Dimensions.	Approx. Weight.	Price per Dozen.		
		inches.	lbs. ozs.	£	s.	d.
L 4885	No. 1. Three pint complete cell without sal-ammoniac	$8\frac{1}{2} \times 4\frac{1}{2} \times 4\frac{1}{2}$	6 0	3	6	0
L 4886	No. 2. Two pints ditto ..	$7\frac{1}{2} \times 3\frac{1}{2} \times 3\frac{1}{2}$	3 14	2	13	3
L 4890	No. 1. Positive element ..	$7\frac{1}{2} \times 2\frac{1}{2}$	3 2	1	16	6
L 4891	No. 2. Ditto .. ..	$7\frac{1}{2} \times 2\frac{1}{2}$	1 14	1	13	0
L 4892	No. 3. Ditto .. ..	$6\frac{1}{2} \times 1\frac{1}{2}$	1 1	1	1	0
L 4893	No. 1. Cylindrical zinc ..	$*6\frac{1}{2} \times 3\frac{1}{2}$	460 grammes		15	0
L 4894	No. 2. Ditto .. ..	$*6 \times 3$	295 grammes		12	6
L 4895	No. 3. Ditto .. ..	$*5\frac{1}{2} \times 2\frac{1}{2}$	220 grammes		11	0
			lbs. ozs.			
L 4840	No. 1. Glass Jar .. ..	$7\frac{1}{2} \times 4\frac{1}{2}$	2 4		15	0
L 4841	No. 2. Ditto .. ..	$6\frac{1}{2} \times 3\frac{1}{2}$	1 8		7	9
L 4842	No. 3. Ditto .. ..	$6 \times 3\frac{1}{2}$	1 0		7	9

\* Internal dimensions.

Half-round and cut-away zincs, prices on application.

## LECLANCHÉ CELLS

### "CARSAK" PATTERN



**L 4850/1**  
In Stone Jar.

Owing to its extremely low internal resistance, the G.E.C. "Carsak" Cell gives a comparatively heavy current for fairly long periods. The high capacity of the 5 pint and 2 quart sizes avoids the necessity for frequent renewals, and renders them particularly suited to the work required in many positions in collieries. The positive element of the G.E.C. "Carsak" Cell is similar to the porous pot, but a canvas sack is substituted for the actual pot. This construction, with a depolarising mixture of very low resistance and high capacity, and the use of a circular or semi-circular well amalgamated sheet zinc negative element in place of the usual zinc rod, accounts for the exceptionally low internal resistance of the cell.

Although the best results, especially as regards internal resistance, are obtained with the special "Carsak" zinc plate, the standard rod of the ordinary porous pot Leclanché Cell can be used if desired.

Catalogue No.	Description.	Approx. Overall Dimensions.	Approx. Weight.	Price per Dozen.		
		inches.	lbs. ozs.	£	s.	d.
<b>L 4850</b>	No. 00. Five pints without sal-ammoniac ..	$9\frac{1}{2} \times 5\frac{1}{2}$	10 8	<b>8</b>	<b>14</b>	<b>0</b>
<b>L 4851</b>	No. 0. Two quarts without sal-ammoniac ..	$8\frac{1}{2} \times 5\frac{1}{2}$	9 2	<b>6</b>	<b>9</b>	<b>6</b>
<b>L 4852</b>	No. 00. Positive element ..	$9 \times 3\frac{1}{2}$	4 10	<b>4</b>	<b>16</b>	<b>0</b>
<b>L 4853</b>	No. 0. Positive element ..	$8 \times 3\frac{1}{2}$	3 13	<b>3</b>	<b>12</b>	<b>0</b>
<b>L 4854</b>	No. 00. Cylindrical zincs ..	$7 \times 3\frac{7}{8}$	1 9	<b>1</b>	<b>16</b>	<b>0</b>
<b>L 4855</b>	No. 0. Cylindrical zincs ..	$6 \times 3\frac{7}{8}$	1 $5\frac{1}{2}$	<b>1</b>	<b>10</b>	<b>6</b>
<b>L 4856</b>	No. 00. Stoneware jar	$9 \times 5\frac{1}{2}$	4 4	<b>2</b>	<b>2</b>	<b>0</b>
<b>L 4857</b>	No. 0. Stoneware jar ..	$7\frac{1}{2} \times 5\frac{1}{2}$	3 10	<b>1</b>	<b>7</b>	<b>0</b>

## SAL-AMMONIAC

### HIGHEST QUALITY WHITE CRYSTAL

IN ORIGINAL CASKS (Casks included in price).

Catalogue No.	Cask containing.	Large Crystal. Price per cwt.			Powdered. Price per cwt.		
		£	s.	d.	£	s.	d.
L 4910	1 cwt.	3	3	0	2	3	6

IN SMALL QUANTITIES.

Packed with other goods.

Catalogue No.	Weight.	Large Crystal Price per lb.	Powdered. Price per lb.
L 4914	1 lb.	} 9d.	7d.
L 4915	7 lb.		
L 4916	14 lb.		
L 4917	28 lb.		
		} 7½d.	6d.

### SAL-AMMONIAC BUTTONS

Sal-ammoniac compressed into soluble pellets.

Catalogue No.	Weight.	Price.		
		£	s.	d.
L 4925	Bag containing 1 lb.	} 3	7	6 per cwt.
L 4926	" " 7 lb.			
L 4927	" " 14 lb.			
L 4928	Cask containing 1 cwt.			
				10 per lb.

## BATTERY BOXES

### VARNISHED WOOD

Catalogue No.	Type of Cell.	Size No.	Cells.					
			2		3		4	
			s.	d.	s.	d.	s.	d.
L 4951	Suitable for either Leclanché Porous Pot or " Carsak " Cells.	1	6	6	7	0	7	6
L 4952		2	6	0	6	6	7	0
			8	6	8	6	8	6

Catalogue No.	Type of Cell.	Size No.	Cells. The Boxes are made to suit round Cells.					
			2		3		4	
			s.	d.	s.	d.	s.	d.
L 4981	G.E.C. Dry do.	1	6	0	6	6	7	0
L 4982		2	5	6	6	0	6	6
			8	0	7	6	8	0

# S.E.C.

## DRY CELLS FOR ALL PURPOSES



**L 4955**



**L 4938**



**L 4942**



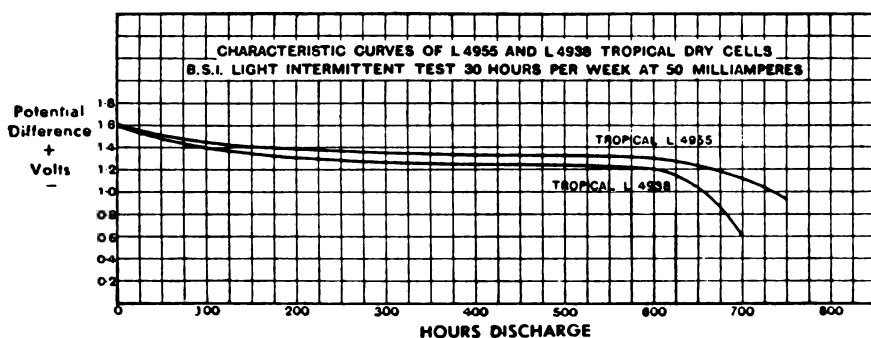
**L 4941**

**L 4955** is specially designed for tropical climates where a short circuit test current is usually of 25 amps. or less if desired. The cell is of the "bag" type, that is, with a tightly wrapped depolarising block. All the ingredients of this block are carefully selected with a view to reducing to a minimum the factor of deterioration, which ensures an even flow of power from the cell.

The cell is carefully sealed internally with a thin film of elastic pitch, which, while permitting the escape of gas if the cell is heavily discharged, reseals itself and prevents evaporation of the electrolyte, as sometimes takes place in ordinary cells under severe climatic conditions. The electrolyte itself is stabilised to prevent local action on the zinc. The life of this cell is greater than that of the **L 4938**, as will be seen on the graph below.

**L 4938** Paper-lined dry cell specially designed for tropical countries where a high short circuit test current of 40 amps. or more is desired. The special treatment to which the paper has been subjected keeps it saturated with electrolyte under all conditions where there is no possibility of it drying up, and retention of moisture is ensured by the cell being internally sealed at the top of the dolly.

**L 4942 BELL** and **L 4941 NEW CENTURY** Dry Cells have been designed to meet the ever increasing demand for a cheap but efficient Dry Cell to give a good output and satisfactory service on Telephone and Bell Installations, etc.



Catalogue No.	Shape.	Approx. Overall Dimensions.	Approx. Weight.	Price each.	
		inches.	lb. oz.	s.	d.
<b>L 4955</b>	Round	7 × 2 $\frac{1}{2}$	1 13	<b>2</b>	<b>6</b>
<b>L 4938</b>	"	7 × 2 $\frac{1}{2}$	1 13	<b>2</b>	<b>3</b>
<b>L 4942</b>	"	7 × 2 $\frac{1}{2}$	1 13	<b>1</b>	<b>6</b>
<b>L 4941</b>	"	6 $\frac{1}{2}$ × 2 $\frac{1}{2}$	1 7	<b>1</b>	<b>3</b>

## DRY CELLS FOR ALL PURPOSES

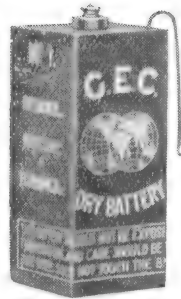
The Cells listed below are tested under the most severe conditions and can be relied upon to give satisfactory service.



**L 4934**



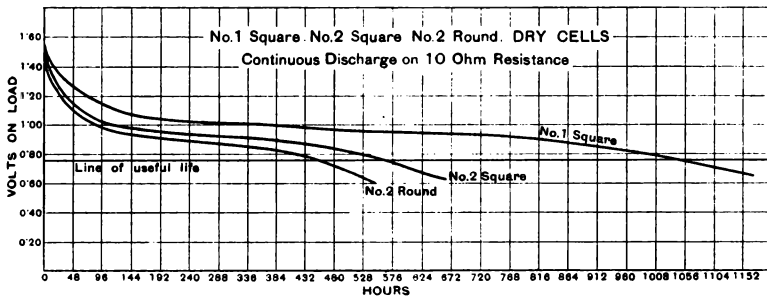
**L 4937**



**L 4946**



**L 4947**



Catalogue No.	Size.	Approx. Overall Dimensions.	Approx. Weight.		Price per dozen.		
			lb.	oz.	£	s.	d.
<b>L 4934</b>	1 Round	8 × 3 $\frac{1}{8}$ inches.	3	5	<b>2</b>	<b>10</b>	<b>0</b>
<b>L 4935</b>	2 Round	7 × 2 $\frac{1}{8}$	2	0	<b>1</b>	<b>13</b>	<b>0</b>
<b>L 4936</b>	3 Round	6 $\frac{1}{2}$ × 2 $\frac{1}{8}$	1	2	<b>1</b>	<b>2</b>	<b>6</b>
<b>L 4937</b>	4 $\frac{1}{2}$ Volts	6 $\frac{1}{2}$ × 2 $\frac{1}{8}$	1	11	<b>2</b>	<b>2</b>	<b>0</b>
<b>L 4945</b>	00 Square	8 × 4 $\frac{1}{8}$	8	2	<b>4</b>	<b>10</b>	<b>0</b>
<b>L 4946</b>	1 Square	7 $\frac{1}{2}$ × 3 $\frac{1}{8}$	4	8	<b>2</b>	<b>14</b>	<b>0</b>
<b>L 4947</b>	2 Square	6 $\frac{3}{8}$ × 2 $\frac{1}{8}$	2	9	<b>1</b>	<b>16</b>	<b>0</b>
<b>L 4948</b>	3 Square	6 × 2 $\frac{1}{8}$	1	7	<b>1</b>	<b>7</b>	<b>0</b>
<b>L 4949</b>	4 Square	4 $\frac{3}{8}$ × 1 $\frac{1}{8}$	0	9	<b>1</b>	<b>0</b>	<b>0</b>

## INERT CELLS

FOR TROPICAL CLIMATES, RAILWAYS, ETC.

The MAGNET Inert Cell is specially recommended for tropical climates. The cell is so constructed that the electrolyte does not become active until the cell is filled with water. To protect the electrolyte from moisture whilst in stock or in transit, a patent damp-resisting cap is fitted over the top of the cell, and should be removed when the cell is brought into use. This cap also acts as a measure for the quantity of water necessary to fill the cell.



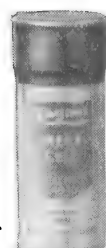
L 4931



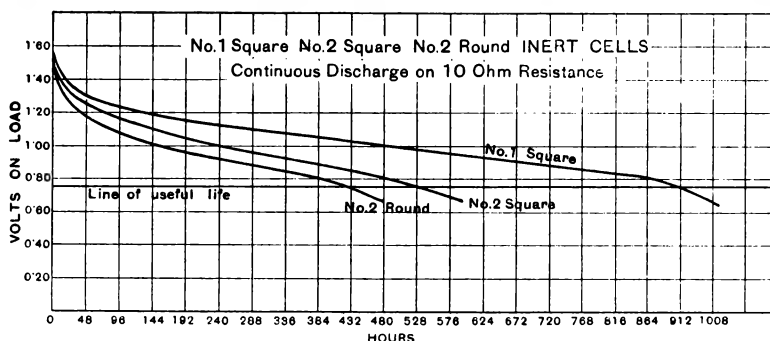
L 4943



L 4939



L 4940



Catalogue No.	Size.	Overall Dimensions.	Approx. Weight.		Price per dozen.		
			lb.	oz.	£	s.	d.
L 4930	00 Square	inches. 8 × 4½	7	10	5	14	0
L 4931	1 Square	7½ × 3½	4	2	3	6	0
L 4943	2 Square	6½ × 2½	2	5	2	6	6
L 4944	3 Square	6 × 2½	1	4	1	16	0
L 4932	4 Square	4½ × 1½	0	8	1	4	0
L 4939	1 Round	7½ × 3½	3	2	3	3	0
L 4940	2 Round	7½ × 2½	1	13	1	19	6
L 4950	3 Round	5½ × 2½	1	1	1	13	0

Particulars of a wide range of DRY BATTERIES for cycle lamps, pocket hand-lamps, torches, etc., will be forwarded on application.

## ACCUMULATORS

FITTED WITH BAKELITE TERMINALS



TYPE A. Cat. No. L **490/5**

In MAGNET Low Tension Accumulators each 2-volt cell is easily removable for inspection or renewal. The active lead paste forming the plates cannot be dislodged by vibration, over-charging or hard usage. The container is of thick transparent celluloid, and is fitted with non-spilling vents of ample dimensions, permitting easy acid removal or re-filling. Generous space is allowed for the electrolyte, and ample room is provided at the bottom of the container below the plates for the collection of sediment which otherwise might cause internal short circuits.



Cat. No. L **480**

### UNSPILLABLE (SOLIDIFIED ELECTROLYTE)

The MAGNET Unspillable Accumulator has a solidified electrolyte. With its low internal resistance it will discharge evenly and silently until it is completely exhausted. Every precaution has been taken in the manufacture of this accumulator to make it as "fool-proof" as possible, and if the instructions as to maintenance are carefully followed, it will give unvarying service and freedom from trouble.

*For dimensions and prices of above accumulators, see next page.*



# ACCUMULATORS

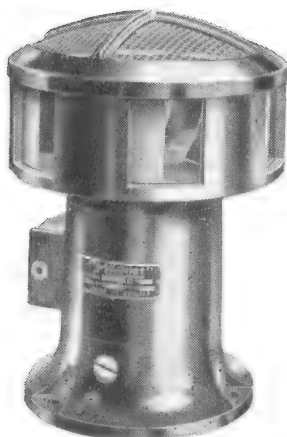
FITTED WITH BAKELITE TERMINALS

## TYPE A (SUPER PLATES)

Cat. No.	No. of Cells.	Maximum Charge and Discharge Rate.	Actual Capacity.	Overall Dimensions.	Weight Empty.	Price each.
		amps.	amp. hrs.	ins.	lbs. ozs.	£ s. d.
L 490	1 Cell 2-volt	1	10	7×4½×1	2 6	10 6
L 491		2	20	7×4½×1½	3 11	14 6
L 492		3	30	7×4½×2½	5 0	17 9
L 493		4	40	7×4½×3	6 0	1 1 0
L 494		5	50	7×4½×3½	7 9	1 6 6
L 495		6	60	7×4½×4½	8 7	1 9 0
L 497	2 Cells 4-volt	1	10	7×4½×2	4 6	1 0 0
L 498		2	20	7×4½×3½	6 10	1 8 6
L 499		3	30	7×4½×4½	9 6	1 15 0
L 500		4	40	7×4½×6	10 11	2 2 0
L 501		5	50	7×4½×7½	15 15	2 8 6
L 502		6	60	7×4½×8½	17 2	2 14 9
L 504	3 Cells 6-volt	1	10	7×4½×2½	6 6	1 10 0
L 505		2	20	7×4½×5	10 5	2 3 0
L 506		3	30	7×4½×7	12 0	2 13 0
L 507		4	40	7×4½×9½	18 2	3 3 0
L 508		5	50	7×4½×11½	21 4	3 12 9
L 509		6	60	7×4½×13½	25 0	4 2 3
TYPE B (STANDARD PLATES)						
L 625	1 Cell 2-volt	2	20	7×4½×1½	2 11	9 0
L 626		3	30	7×4½×2½	3 11	11 0
L 627		4	40	7×4½×2¾	4 10	13 0
L 632	2 Cells 4-volt	2	20	7×4½×3	5 4	18 0
L 633		3	30	7×4½×4½	7 4	1 2 0
L 639	3 Cells 6-volt	2	20	7×4½×4¾	7 15	1 7 0
L 640		3	30	7×4½×6¾	11 0	1 13 0
UNSPILLABLE TYPE						
L 480	1 Cell 2-volt	2	20	6×3½×3½	4 7	19 6



## **ELECTRIC SYRENS**



**L 5002**

Upright Position.

These syrens are electrically operated signalling devices, having a wide range of uses for industrial and general signalling purposes. Each syren is a complete unit in itself and is so simple in operation that it can be easily controlled by the least experienced. In common with most other electrical installations, the cost of working and upkeep shows considerable economy over the charges incurred in operating compressed air or steam whistle plants.

### **USES**

The uses to which these electrical syrens may be applied are numerous. They are especially suitable for fog-signalling, fire alarms, time signals, and for use in docks, ships and warehouses—in short, in any position where a predominating and distinctive signal, audible over a large area and operative at a moment's notice, is required.

### **CONSTRUCTION**

The motor is totally enclosed and with the syren is built into a complete unit, which is both strong and compact. The metal parts are of massive construction, and the whole is finished in black enamel. Although definite ratings are given to the motors, they are very flexible and are fitted with ball bearings and automatic lubrication. They therefore require very little attention.

The method of construction ensures that the greatest volume of sound is distributed in all directions, and the syren is equally effective when mounted in an upright, horizontal or inverted position.

### **SOUND RANGE**

The sound ranges tabulated in the following page were determined by mounting the various types in a high position in the open air. Naturally, these sound ranges are variable and depend on many accidental circumstances. In towns, for instance, where considerable street traffic noise is present, and where a large amount of screening is introduced by high buildings and narrow thoroughfares, the sound ranges are diminished. On the other hand, in misty or damp weather, especially on still nights with no wind, the sound ranges are greatly increased—in some cases by as much as 200 per cent.

## ELECTRIC SYRENS

(continued from previous page)

### SWITCHING ON

Switching on is effected in Cat. Nos. L **4999/5002** by means of a push-button, Cat. No. L **4099**, or by a switch, Cat. No. S **385**, connected directly in circuit.

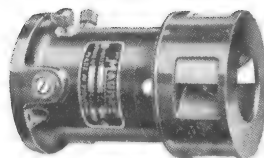
### INSTALLATION

This is extremely simple. All types may be fitted in any convenient position, upright, horizontal, or vertically suspended from ceilings or cornices. In the open air the upright position is recommended, the syren being mounted on a convenient roof, while in large buildings, factories, etc., the syren may be mounted inverted on a ceiling, or horizontally on a pillar or wall. The sound-emission is independent of the method of mounting.

It is advisable to protect syrens mounted in the open by means of a small canopy of some kind, otherwise snow or ice may clog the vanes of the syren. Such a protection must be fixed at least 8 inches above the head and case of the syren.



L **5001**  
Inverted Position.



L **4999**  
Horizontal Position.

### RATINGS

Cat. Nos. L **4999/5002** are fitted with universal motors for direct or alternating current. They are made in models suitable for 100/110 or 200/250 volts D.C., or A.C., 40 to 60 cycles. *When ordering state voltage of supply.*

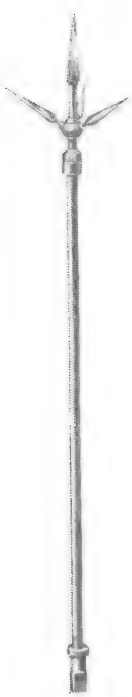
Cat. No. L **4997** is suitable for D.C. operation from a 12-volt battery.

Cat. No.	Voltage.	Sound Range (appx.)	Frequency of note (appx.)	Input at Starting (appx.)	Dimensions.		Net Weight (approx.)	Price each.		
					Dia.	Height.				
			Mile. Per sec.	Watts.	ins.	ins.	lb. oz.	£	s.	d.
L <b>4999</b>	100/	{	$\frac{1}{4}$ 550	200	3 $\frac{11}{16}$	5 $\frac{1}{4}$	3 8	5	5	0
L <b>5000</b>			$\frac{1}{2}$ 620	270	5 $\frac{1}{4}$	8 $\frac{1}{2}$	5 4	8	10	0
L <b>5001</b>	250	{	$\frac{1}{2}$ 530	600	7 $\frac{11}{16}$	9 $\frac{11}{16}$	8 8	10	0	0
L <b>5002</b>			1 325	1100	9 $\frac{1}{4}$	13 $\frac{7}{16}$	28 0	15	0	0

### D.C. SYRENS (Battery Working)

Cat. No.	Voltage.	Sound Range (appx.)	Frequency of note (appx.)	Input at Starting (appx.)	Dimensions.		Net Weight (approx.)	Price each.		
					Dia.	Height.				
			Mile. Per sec.	Watts.	ins.	ins.	lb. oz.	£	s.	d.
L <b>4997</b>	12		$\frac{1}{4}$ 440	100	3 $\frac{11}{16}$	5 $\frac{1}{4}$	3 6	5	10	0

# LIGHTNING CONDUCTOR FINIALS



**L 5800/8**  
For Tape.



**L 5800/8**  
For Rope.



**L 5812/20**  
For Ridge of Roof.



**L 5812/20**  
For Flat Roof.

Cat. No. **L 5800/8** comprises copper elevation tube with polished gun metal multiple point and coupling for either rope or tape as desired.

Cat. No. **L 5812/20** comprises copper elevation tube with polished gun metal multiple point and saddle for either ridge or flat roof as desired.

Dia. of Tube.	Height overall, 5 feet.			4 feet.			3 feet.		
	Cat. No.	Price each.		Cat. No.	Price each.		Cat. No.	Price each.	
ins.		s.	d.		s.	d.		s.	d.
5	L 5800	26	9	L 5803	25	3	L 5806	23	9
3	L 5801	34	0	L 5804	31	0	L 5807	28	0
2	L 5802	48	0	L 5805	44	3	L 5808	40	6
1	L 5812	30	0	L 5815	28	6	L 5818	27	0
5	L 5813	37	0	L 5816	34	0	L 5819	31	0
3	L 5814	55	0	L 5817	51	3	L 5820	47	6
2									
1									

*When ordering, state whether conductor is to be fitted for rope or tape ; or, if for roof, state whether ridge or flat.*

*If solid copper rod is desired it can be supplied instead of hollow tube at extra cost.*

## LIGHTNING CONDUCTOR PARTS

**SINGLE POINT.** Polished gun metal, threaded for tube.

Cat. No.	Diam. of Tube.	Price each.	
	ins.	s.	d.
L 5835	$\frac{5}{8}$	8	0
L 5836	$\frac{3}{4}$	11	0
L 5837	1	17	0



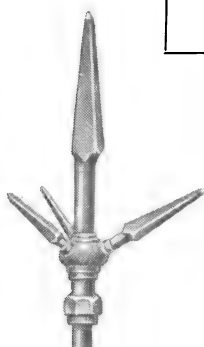
L 5835/7

**SUPPORT.** Bronze holdfast in sets of two for securing elevation rod to brickwork.

Cat. No.	To fit Rod.	Price per set.	
	diam.	s.	d.
L 5848	$\frac{5}{8}$ in.	10	6
	$\frac{3}{4}$ in.	12	9
	1 in.	18	9

**COPPER TUBE.** In lengths as desired up to 10 ft.

Cat. No.	Diam. of Tube.	Price per ft.	
	ins.	s.	d.
L 5845	$\frac{5}{8}$	3	0
L 5846	$\frac{3}{4}$	3	9
L 5847	1	4	9



L 5840/2

**MULTIPLE POINT.** Polished gun metal, threaded for tube.

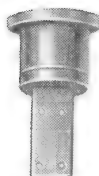
Cat. No.	Diam. of Tube.	Price each.	
	ins.	s.	d.
L 5840	$\frac{5}{8}$	10	0
L 5841	$\frac{3}{4}$	12	0
L 5842	1	20	0

**COUPLING.** For rope to tube or rod.

Cat. No.	Description.	Price each.	
		s.	d.
L 5853	For $\frac{3}{8}$ in. rope to $\frac{5}{8}$ in. tube	4	0
L 5854	For $\frac{1}{2}$ in. rope to $\frac{3}{4}$ in. tube	4	9
L 5855	For $\frac{3}{4}$ in. rope to 1 in. tube	6	0



L 5853/5



L 5850/2

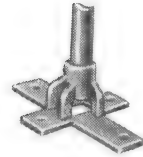
**COUPLING.** For tape to tube or rod.

Cat. No.	Description.	Price each.	
		s.	d.
L 5850	For $\frac{5}{8}$ in. tape to $\frac{5}{8}$ in. tube	3	9
L 5851	For $\frac{3}{4}$ in. tape to $\frac{3}{4}$ in. tube	4	6
L 5852	For 1 in. tape to 1 in. tube	5	6

## LIGHTNING CONDUCTOR PARTS

**FLAT STAND.** Tapped out for rod.

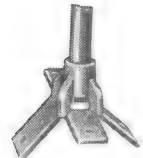
Cat. No.	Size.	Price each.	
L 5856	ins.	s.	d.
	5	7	0
	3	7	6
	1	12	0



L 5856

**RIDGE STAND.** Tapped out for rod.

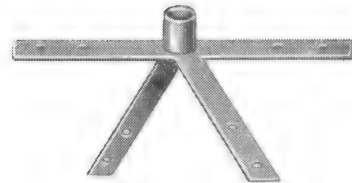
Cat. No.	Size.	Price each.	
L 5857	ins.	s.	d.
	5	7	0
	3	7	6
	1	12	0



L 5857

**BRASS SADDLE.** For ridge of roof.

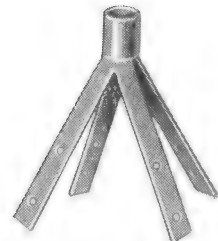
Cat. No.	Size.	Price each.	
L 5864	ins.	s.	d.
	5	8	6
	3	9	3
	1	13	6



L 5864

**BRASS SADDLE.** For apex of roof.

Cat. No.	Size.	Price each.	
L 5865	ins.	s.	d.
	5	8	6
	3	9	3
	1	13	3

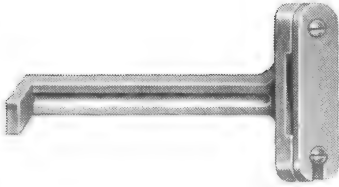


L 5865

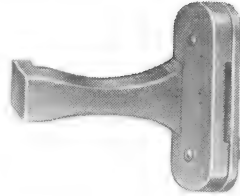
# S.&C.

## LIGHTNING CONDUCTOR PARTS

### TAPE HOLDFASTS



**L 5866**



**L 5867**

Cat. No.	Description.	Size.	Price per doz.		
		in.	£	s.	d.
<b>L 5866</b>	Gun metal for building into brick-work. Made to accommodate standard 4½-in. brick.	½	1	4	0
		1	1	6	6
<b>L 5867</b>	Gun metal for caulking into brick-work	½	1	1	0
		1	1	4	0

*Also supplied for rope.*

### CONNECTOR

For joining lengths of tape along house roofs.



**L 5858**

Catalogue No.	Price each.	
	s.	d.
<b>L 5858</b>	5	0

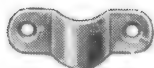
### GUN METAL TAPE CLIP



**L 5870/2**

Catalogue No.	Size of Tape.	Price per doz.	
	in.	s.	d.
<b>L 5870</b>	½	3	6
<b>L 5871</b>	¾	3	9
<b>L 5872</b>	1	4	0

### GUN METAL ROPE CLIP



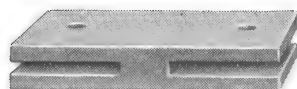
**L 5875/7**

Catalogue No.	Size of Rope.	Price per doz.	
	in.	s.	d.
<b>L 5875</b>	½	3	0
<b>L 5876</b>	¾	3	6
<b>L 5877</b>	1	4	0

## LIGHTNING CONDUCTOR PARTS

Catalogue No.	Description.	Size.			Price each.
		in.	s.	d.	
L 5902	Gun metal for joining earth-plate to tape	—	4	6	
L 5903	Gun metal for joining earth-plate to rope.	Rope			
	Tinned in aperture for sweating rope in	$\frac{1}{8}$	4	6	
		$\frac{3}{8}$	5	3	

### ATTACHMENTS



L 5902



L 5903

### COPPER NAILS for Clips No. L 5870/7

Catalogue No.	Price per doz.
L 5901	9d.

### BRASS STAPLE FOR TAPE

Catalogue No.	Size of Tape.	Price per doz.	
		s.	d.
L 5878	$\frac{3}{8}$ in.	3	6
L 5879	$\frac{1}{2}$ in.	3	9
L 5880	1 in.	4	0



L 5878/80

### BRASS STAPLE FOR ROPE

Catalogue No.	Size of Rope.	Price per doz.	
		s.	d.
L 5883	$\frac{3}{8}$ in.	4	0
L 5884	$\frac{1}{2}$ in.	4	3
L 5885	$\frac{3}{4}$ in.	4	6



L 5883/5

### COPPER TAPE

Cat. No.	Size.	Price.
	ins.	
L 5890	$\frac{3}{8} \times \frac{1}{2}$	On application.
L 5891	$\frac{1}{2} \times \frac{3}{8}$	
L 5892	$1 \times \frac{3}{8}$	

### COPPER ROPE

Cat. No.	Size.	Price.
	in. diam.	
L 5895	$\frac{3}{8}$	On application.
L 5896	$\frac{1}{2}$	
L 5897	$\frac{3}{4}$	

L 5900 Copper Earth Plates 2ft.  $\times$  2ft.  $\times$   $\frac{1}{16}$ .

Price on application.

## TUBULAR EARTHS FOR LIGHTNING CONDUCTOR AND ELECTRICAL INSTALLATIONS

(Killingworth Hedges' Patent)

The efficiency of a lightning conductor is primarily dependent upon the thoroughness with which it is brought into contact with moist earth. The "Hedges" Tubular Earth has been designed to provide a permanent and efficient connection which is at the same time simple in construction, inexpensive, and easy to install.

Illustrations show one complete Earth, consisting of removable cast iron cap, top or body casting to which tape or cable is electrically connected by lead yarn tamping, extension tube (length as required), and spear point for driving into ground.

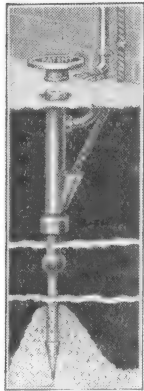
Fig. 3 shows the device in section. The loose washer "A" is threaded on the conductor before dropping it to the bottom of the tube. "B" is the lead yarn tamping. A filling of bitumen is sometimes specified. A set screw is provided at "C."

This is only one type of Tubular Earth, the alternative equipment which may be used being (Fig. 1) self-watering funnel-shaped cap with removable strainer for rainwater, (Fig. 2) cast iron dirt trap in place of cap, fitted with hinged lid for cleaning, made to fit direct into top casting, and (Fig. 3) special top or body casting with double sockets for two tapes or cables, with which watering pipe is used. Watering pipe only or pipe and cap may be used with body casting (c).

Supplied in sizes  $1\frac{1}{4}$  in.,  $1\frac{1}{2}$  in. and 2 in. diameter, with extra lengthening tubes for reaching the most suitable earth, as required. Each set is complete with carbon, lead yarn and full instructions for sinking.

### ADVANTAGES

- (1) Can be kept perfectly moist by the granulated carbon filling.
- (2) No testing required, as earth conductivity when properly sunk is perfect and constant.
- (3) The initial cost is no more expensive than the plate earth, which has to be tested periodically.
- (4) No danger of fire—joints made with lead yarn.
- (5) The Tubular Earth can be sunk almost anywhere, and there is no disturbance of foundations by digging holes, as the steel spike will cut its way through any ground.



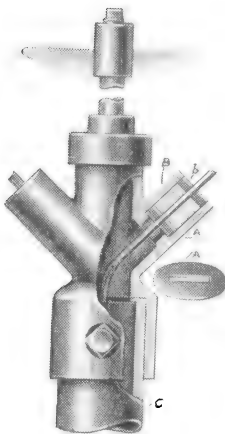
L 6080/1



Self  
Watering  
Cap.  
Fig. 1.



Cast Iron Dirt Trap.  
Fig. 2.



Special Top with  
Double Sockets.  
Fig. 3.

Catalogue No.	Dimensions	Price each.
L 6080	$1\frac{1}{4}$ in. $\times$ 10 ft.	On Application.
L 6081	$1\frac{1}{2}$ in. $\times$ 10 ft.	
L 6082	2 in. $\times$ 10 ft.	

<b>Extras</b>	For fitting Self-Watering Cap ..	} Prices on application.
	For fitting Cast Iron Dirt Trap ..	
	For fitting Special Top with double sockets .. .. .	
	Copper Tape or Rope .. .. .	

NOTE—Various other alternative arrangements of standard component parts can be supplied if required.



# BINDING SCREWS AND TERMINALS

## BRASS

The catalogue numbers denote the order of the relative sizes, the first number being the largest of the series. One of each series is illustrated full size.



**L 5400/2**

Cat. No.	Price per doz.		Price per gross.		
	s.	d.	£	s.	d.
L 5400	3	6	2	0	0
L 5401	3	0	1	14	0
L 5402	2	6	1	8	6



**L 5405/6**

Cat. No.	Price per doz.		Price per gross.		
	s.	d.	£	s.	d.
L 5405	3	0	1	14	6
L 5406	2	6	1	8	6



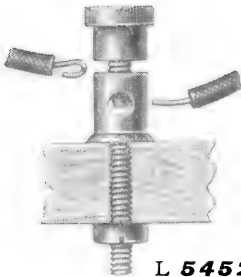
**L 5407/8**

Cat. No.	Price per doz.		Price per gross.		
	s.	d.	£	s.	d.
L 5407	3	0	1	14	6
L 5408	2	3	1	5	6



**L 5410/12**

Cat. No.	Price per doz.		Price per gross.		
	s.	d.	£	s.	d.
L 5410	4	0	2	6	6
L 5411	3	0	1	14	6
L 5412	2	6	1	8	6



**L 5452**

**Special Terminal**, suitable for the reception of hook, wire or pin end.

Cat. No.	Price per doz.		Price per gross.		
	s.	d.	£	s.	d.
L 5452	2	6	1	8	6

# S.E.C.

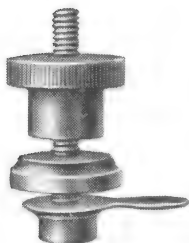
## BINDING SCREWS, TERMINALS, ETC.

BRASS



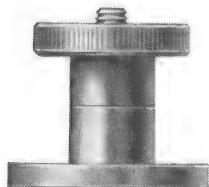
**L 5417/19**

Cat. No.	Price per doz.		Price per gross.		
	s.	d.	£	s.	d.
L 5417	3	9	2	3	6
L 5418	3	0	1	14	6
L 5419	2	9	1	11	6



**L 5420** Nickel-plated.

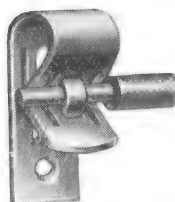
Cat. No.	Price per doz.		Price per gross.		
	s.	d.	£	s.	d.
L 5420	3	9	2	2	6



**L 54281<sup>F</sup>**  
**Battery Box Terminal.**

The base plate has two countersunk holes to receive fixing screws.

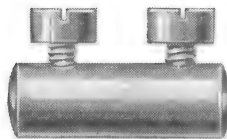
Cat. No.	Price per doz.		Price per gross.		
	s.	d.	£	s.	d.
L 5428	6	6	3	13	0



**L 5470**  
Small Single Terminal.

Cat. No.	Price per doz.		Price per gross.		
	s.	d.	£	s.	d.
L 5470	1	6	16	6	

The catalogue numbers denote the order of the relative sizes, the first number being the largest of the series. One of each series is illustrated full size.



**L 5432**

**Wire Connector**, Nos. L 5431/2 have slotted brass screws as shown; Nos. L 5433/4 milled screw heads.

Cat. No.	Price per doz.		Price per gross.		
	s.	d.	£	s.	d.
L 5431	3	0	1	14	6
L 5432	2	9	1	11	6
L 5433	2	6	1	7	6
L 5434	1	9	19	9	

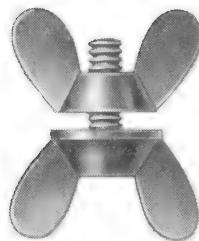


**L 5458**

**Terminal Plate**, as used in indicators, etc.

Cat. No.	Price per doz.		Price per gross.		
	s.	d.	£	s.	d.
L 5458	1	9	1	0	0

Prices include one back nut for all terminals, except Nos. 5407/8, 5417/9.



**L 5430**  
**Double Wing Nut.**  
With two wing nuts and one washer.

Cat. No.	Price per doz.		Price per gross.		
	s.	d.	£	s.	d.
L 5430	3	6	2	0	0

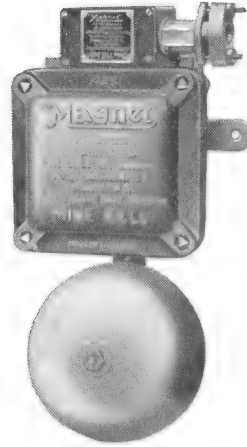
# BATTERY RINGING MINE BELLS

(CERTIFIED BY H.M. MINES DEPARTMENT)

## MAGNET MINE BELL



**L 4225/6**



**L 4229/30**

**Specification.**—Cast iron base and cover with wide machined flanges. Special terminal chamber, cover fixed with key-headed screws suitably shrouded. Protective device short circuited copper cylinder. Bobbins wound with enamelled copper wire to 25 ohms resistance. Armature of robust type with heavy contact points and springs with spiral adjusting pin. Hammer fitted behind gong. Gong of special metal giving distinctive and piercing note.

### WITHOUT GLAND

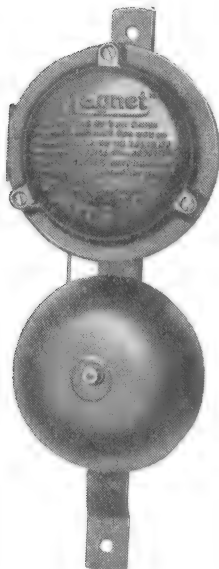
Cat. No.	Size of Gong.	Overall dimensions.	Weight.	Price each.		
				With Opening Key.		
<b>L 4225</b>	inches. 6	inches. 14×7×3	lbs. 8½	£ 2	s. 1	d. 6
<b>L 4226</b>	8	16×8×4	12	<b>2</b>	<b>6</b>	<b>6</b>

### WITH GLAND

Cat. No.	Size of Gong.	Overall dimensions.	Weight.	Price each.		
				With Opening Key.		
<b>L 4229</b>	inches. 6	inches. 14×8×3	lbs. 15	£ 3	s. 1	d. 6
<b>L 4230</b>	8	16×8×4	17½	<b>3</b>	<b>11</b>	<b>6</b>

# S.E.C.

## BATTERY RINGING MINE BELLS

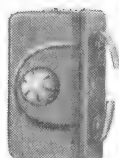


**L 4231/2**

### SUBTER MINE BELL

**Specification.**—This Bell has been specially designed to comply with the regulations of the Mines' Department relating to open sparking in fiery mines. It is fitted with a safety device in the form of a shunt coil of 250 ohms resistance, and embodies an electro-magnetic movement of most efficient design in a flame-proof case, with broad machined joints and key-headed fixing screws. The gong is of specially tempered cast steel, and is very distinctive in tone. The movement is wound to a resistance of 50 ohms. External metal parts are protected against corrosion, etc.

Cat. No.	Size of Gong. inches.	Overall dimensions. inches.	Weight. lbs.	Price each.		
				With Opening Key.		
<b>L 4231</b>	6	$17 \times 6\frac{1}{2} \times 2\frac{1}{2}$	10 $\frac{1}{2}$	£	s.	d.
<b>L 4232</b>	8	$17 \times 8 \times 2\frac{1}{2}$	11 $\frac{1}{2}$	<b>2</b>	<b>16</b>	<b>6</b>
				<b>2</b>	<b>19</b>	<b>0</b>



**L 4235**  
Patent No.  
293,566

### VISUAL LAMP INDICATOR

A Visual Lamp Indicator (**L 4235**), comprising a metal box, with spring contacts arranged for a 12 or 24 volt OSRAM Festoon lamp, can be fitted to the terminal chamber of a bell system incorporating battery ringing mine bells (at an extra charge), wherever a visual as well as an audible signal is required.

Cat. No.	Description.	Overall dimensions. inches.	Weight. lbs.	Price each.	
				s.	d.
<b>L 4235</b>	Visual Lamp Indicator (without lamp)	$2\frac{1}{2} \times 1\frac{1}{2} \times 1\frac{1}{2}$	$\frac{1}{2}$	<b>9</b>	<b>0</b>

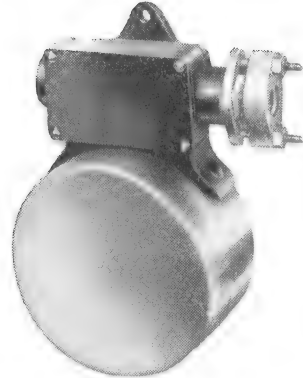
# **MINING RATTLER**

(APPROVED BY H.M. MINES DEPARTMENT)

The MAGNET Mining Rattler has been designed for simultaneous signalling in mines where it can be used in parallel with the engine-room bell. This rattler is also suitable as a safety buzzer in oil stations, garages, etc.

The working parts are enclosed in a solid drawn copper case which cannot be opened except by a soldering iron or lamp.

Voltage range : 24 volts D.C.



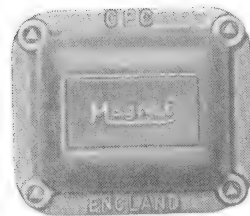
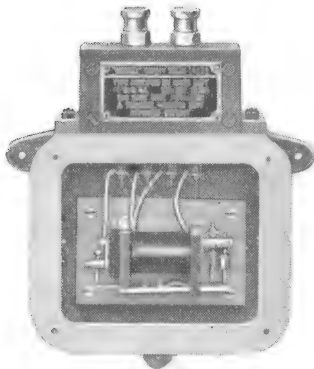
**L 4220**

Cat. No.	Overall Dimensions.			Price each. With Opening Key.		
	Height. inches.	Width. inches.	Depth. inches.			
<b>L 4220</b>	7½	5	2½	£	s.	d.
				1	16	6

# **RELAYS**

**FOR MINE HAULAGE ROAD SIGNALLING**

**TYPE CERTIFIED BY H.M. MINES DEPT. FOR BARE WIRE SIGNALLING**



**L 4233**

**Specification**—Suitable for general colliery work, being of robust construction ; the case is flame-proof. The relay has a winding of 100 ohms and a protective device consisting of a short circuited copper cylinder.

Cat. No.	Weight. lbs.	Length. inches.	Width. inches.	Depth. inches.	Price each. With Opening Key.		
					£	s.	d.
<b>L 4233</b>	10	9½	7½	3	3	1	6

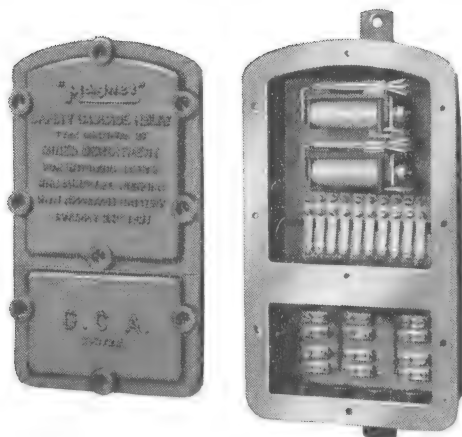
Key for opening case, **4s. 0d.**

# S.E.C.

## "SAFETY" RELAY SYSTEM

FOR MINE HAULAGE SIGNALLING ON BARE WIRES

(APPROVED BY H.M. MINES DEPARTMENT)



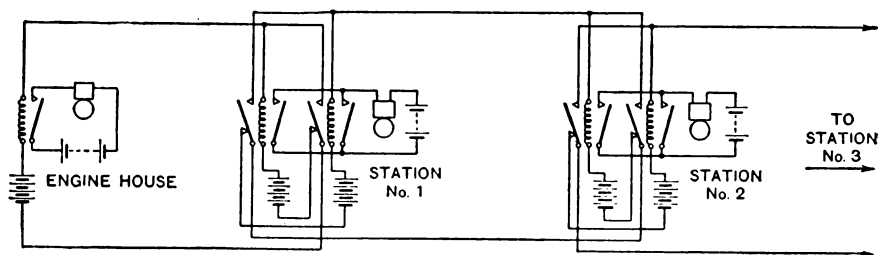
DUPLEX RELAY  
with Terminal and  
relay covers removed.

**L 4237**

**Specification.**—This system has been devised to comply with the requirements of H.M. Mines Department, and supplies a signal station wherever required, giving simultaneous signals at each point from any signal connection on the engine plane. Further, the whole engine plane, whatever its magnitude, is converted into units, each unit being complete within itself, but interconnected through the whole system. Broadly the system consists of local relays at each station, operated automatically in cascade.

This system has proved highly satisfactory in modern large collieries. The operating voltage is 8 to 10 volts, and current consumption very low.

Catalogue No.	Total Weight.	Overall Dimensions.	Price
<b>L 4237</b>	lbs. 24½	inches. 15 × 7½ × 4	On application.



Typical circuit diagram.

# TAPPERS AND CONTACTS

FOR MINE SIGNALLING

## IRONCLAD MINE PUSH

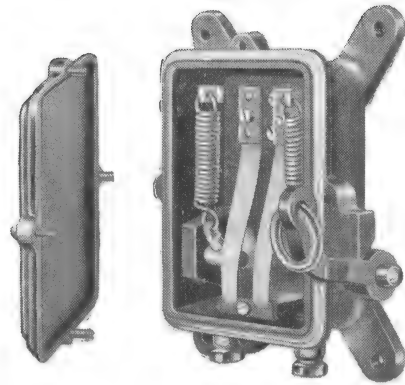
Catalogue No.	Approx. Weight.	Dimensions.			Price each. With Opening Key.		
	Lbs.	Length. inches.	Width. inches.	Depth. inches.	s.	d.	
<b>L 4234</b> Morse Contact	4	5½	4½	2½	19	0	
<b>L 4236</b> Single Contact	4	5½	4½	2½	18	0	



**L 4234/6**

## SIDE LEVER KEY

**Specification**—Single Contacts only. Single pole, double contact pull, fitted in waterproof iron case having the operating attachment fitted at the side. It consists of a spindle fitted with a lever at one side actuating an insulated cam which when displaced about 90° from the normal, short circuits two contact springs, thus closing the signalling circuit. It is particularly suitable for converting a mechanical knocker to electrical signalling where it is desired to obviate the expense of running cables down the shaft.



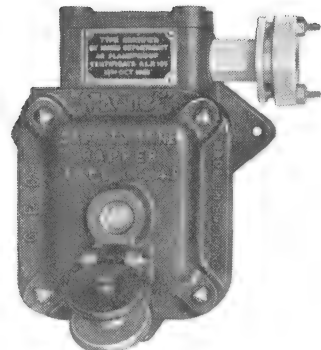
**L 4196**

Catalogue No.	Approx. Weight.	Dimensions.			Price each. With Opening Key.		
	Lbs.	Length. inches.	Width. inches.	Depth. inches.	£	s.	d.
<b>L 4196</b>	5½	6½	5½	3½	1	6	6

## SAFETY MINE RAPPER

This Rapper is fully approved by H.M. Mines Department as being flameproof. The design renders it impossible to give an accidental signal.

Catalogue No.	Approx. Weight.	Dimensions.			Price each. With Opening Key.		
	Lbs.	Length. inches.	Width. inches.	Depth. inches.	£	s.	d.
<b>L 4143</b>	11½	7½	8½	4½	1	16	6



**L 4143**

# S.E.C.

## TAPPERS FOR MINE SIGNALLING



L 4146

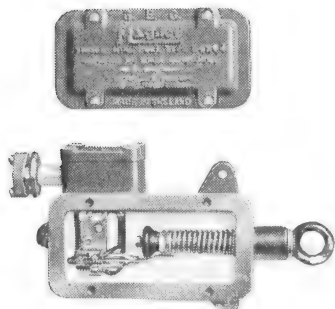
Solid iron base, with German silver springs, silver pointed solid metal plunger with india-rubber washers. Damp-proof.

Catalogue No.	Dimensions of Base.	Weight.		Price each.		
	inches.	lb.	oz.	s.	d.	
L 4146	4 $\frac{1}{4}$	1	10	12	6	

## SIGNAL PULLS FOR MINE HAULAGE ROAD SIGNALLING

CERTIFIED BY [I.L.M. MINES DEPT. (CERT. NO. FLP)]

### SINGLE TYPE

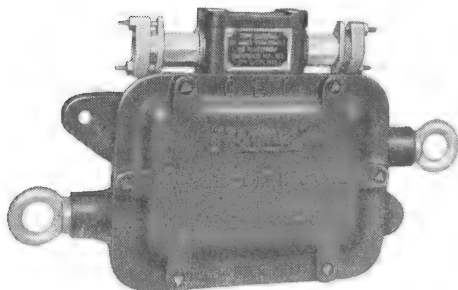


L 4244

**Specification**—This pull is of exceedingly robust type, fitted in strong cast iron case with separate terminal chamber and armour glands. The covers of both chambers are secured by key-headed screws. The movement consists of a stout steel rod attached to a malleable eye and fitted with a strong spiral spring of 100 lbs. pull. The contacting mechanism consists of a hard bakelite knob sliding on to a bank of springs, giving Morse signal contact if required. Impossible for false rings to be given owing to wear.

### DOUBLE TYPE

L 4243



L 4243

**Specification**—Similar to above but fitted with two pull spindles. The contacts in this model are performed by an insulated metal ring sliding between two leaf springs.

				Dimensions.			Price each.		
				Length.	Width	Depth.	With Opening Key.		
	lbs.	oz.		ins.	ins.	ins.	£	s.	d.
L 4243	21	8		13 $\frac{1}{4}$	8 $\frac{3}{4}$	2 $\frac{3}{4}$	4	14	0
L 4244	10	12		14 $\frac{1}{4}$	7 $\frac{1}{2}$	2 $\frac{3}{4}$	3	11	6



## MINE SIGNAL PULLS

### NON-FLAME-PROOF TYPE

Catalogue No.	Approx. Weight.		Dimensions.			Price each.		
	Lbs.	Kilos.	Length.	Width.	Depth.			
			ins.	ins.	ins.	£	s.	d.
<b>L 4238</b> Morse Contact	7½	3.37	9½	6	3	<b>2</b>	<b>15</b>	<b>0</b>
<b>L 4240</b> Single Contact	7½	3.37	10	6	3	<b>2</b>	<b>10</b>	<b>0</b>



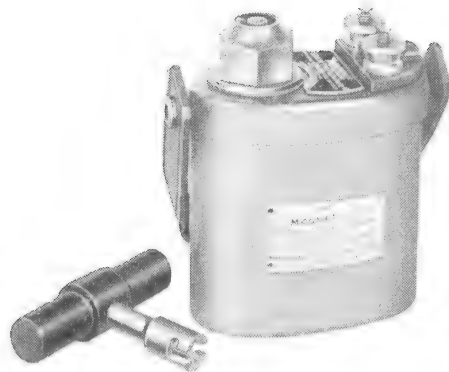
**L 4238/40**

## MAGNETO EXPLODERS

(APPROVED BY H.M. MINES DEPARTMENT)

**Specification**—This Exploder is contained in a solid drawn brass case heavily tinned; the cover is secured to the main case by a sealed screw which prevents any interference with the mechanism by unauthorised persons. The movement is so designed that it automatically closes the exterior circuit at the end of the firing stroke.

This MAGNET Exploder complies fully with H.M. Mines Department requirements for use in fiery mines.



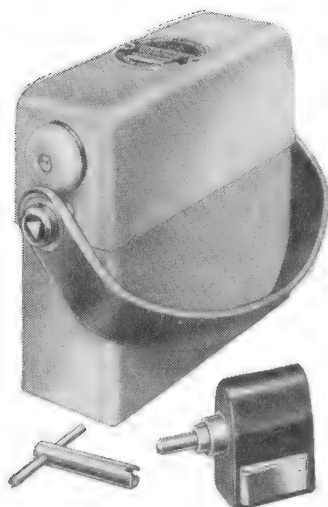
**L 5143/5144**

Catalogue No.	Type.	Weight.		Overall Dimensions.			Price each.		
				Height without handle.	Thickness	Width.			
		lbs.	ozs.	ins.	ins.	ins.	£	s.	d.
<b>L 5143</b>	High Tension	3	3½	4½	2½	4½	<b>5</b>	<b>6</b>	<b>8</b>
<b>L 5144</b>	Low Tension	3	3½	4½	2½	4½	<b>5</b>	<b>6</b>	<b>8</b>

# G.E.C.

## BATTERY EXPLODER FOR MINES

(APPROVED BY H.M. MINES DEPARTMENT)



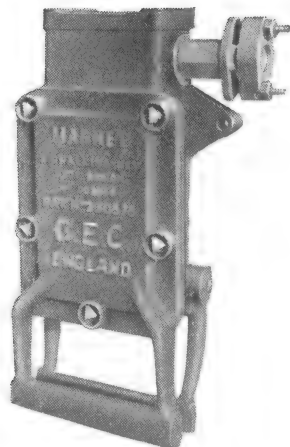
**MAGNET**  
Battery Exploder for Mines.

This Exploder is fitted with a patented contacting mechanism which automatically controls the contact period independently of the operator. It is housed in a specially treated steel case with cover secured by key-headed screws. The firing operation is performed by the cable being attached to the spring clips on the side of the special firing key, which is inserted in the spring-closed jack and pressed home.

Catalogue No.	Dimensions.	Weight.	Price each.	
	inches.	lbs. ozs.	£	s. d.
H.T. L 5145	$6\frac{1}{2} \times 7\frac{1}{2} \times 2$	5 8	}	3 15 0
L.T. L 5146	$6\frac{1}{2} \times 5 \times 2$	4 3		

### Refill Batteries

Catalogue No.	Dimensions.	Weight.	Price each	
	inches.	lbs. ozs.	s.	d.
H.T. L 6093	$5\frac{1}{2} \times 5\frac{1}{2} \times 1\frac{1}{2}$	2 0	4	6
L.T. L 6097	$5 \times 3 \times 1\frac{1}{2}$	1 6½	3	6



**L 4119**

## FLAMEPROOF STIRRUP KEY

This Key is designed to withstand rigorous usage. It is fully certified and the lever is protected by the guard from accidental contact. Strong cast iron case with machined flanges and separate terminal box.

Catalogue No.	Dimensions.	Weight.	Price each. With opening key.	
	inches	lbs. ozs.	£	s. d.
L 4119	$7\frac{1}{2} \times 10\frac{1}{2} \times 3$	11 0	2	1 6

# AUDIBLE AND VISUAL SIGNALLING SYSTEM

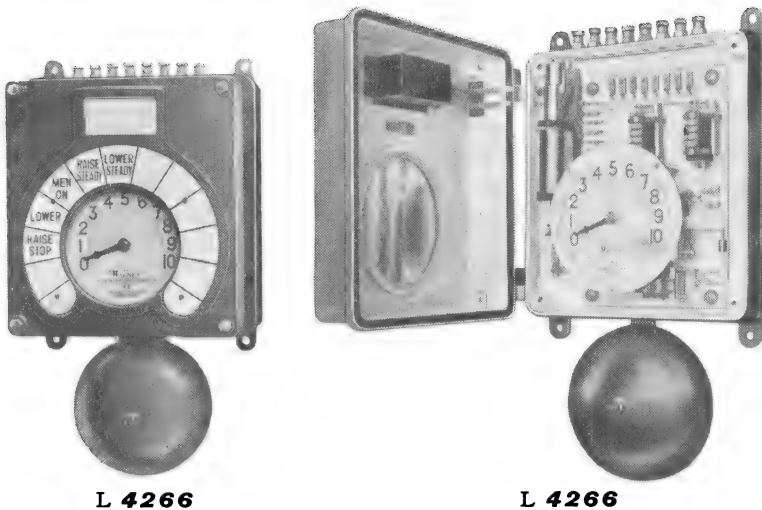
FOR SIGNALLING BETWEEN ONSETTER AND PIT BANK

Electrical signalling for shaft work offers many advantages over the cumbersome methods hitherto used. The MAGNET Audible and Visual Signalling System provides for efficient and rapid working, whilst fully complying with the requirements of H.M. Home Office. The system comprises :—

- (a) Two Audible and Visual Signalling Indicators operating at 12 volts (one for the onsetter and one for the banksman). An extension Bell or Hooter can be added, if desired, for which purpose terminals are provided.
- (b) Cancelling Device for clearing the Indicator.
- (c) Level Indicators (for multi-level pits).
- (d) Single-stroke Bell for each onsetter and for banksman.
- (e) Signalling Keys for onsetter and banksman.
- (f) Two 12-volt 100 amp-hour Secondary Batteries.

In Collieries where a mechanical system of signalling exists, the MAGNET Audible and Visual Signalling Indicator can be used by installing a converter pull (L 4244, page 816).

## MAGNET INDICATOR



**Specification**—This Indicator is fitted with a single stroke bell and an electrically illuminated panel above the dial so that both visual and audible signals are given. The whole of the working parts are enclosed in a cast-iron case, the cover of which can be readily removed to allow of free inspection. The method of operation is electrical throughout. The Indicator is non-cumulative and indications are always made, irrespective of speed of signalling. All parts including the terminals are easily accessible, and the general design has been kept as simple as possible compatible with the functions which the Indicator has to perform.

Catalogue No.	Approx. Weight.	Dimensions.			Price each.		
	lbs.	Length.	Width.	Depth.			
		inches.	inches.	inches.	£	s.	d.
<b>L 4266</b>	65	<b>23½</b>	<b>14½</b>	<b>5½</b>	<b>36</b>	<b>0</b>	<b>0</b>

# S.E.C.

## CANCELLING DEVICE

FOR SIGNALLING BETWEEN ONSETTER AND PIT BANK

(Patent No. 180882/22)

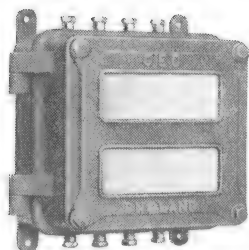


**L 4272**

This device is coupled to the winding engine and governs the cancellation of the Indicator Pointer and the "Men" panel. The "Men" indication remains visible almost to the end of the wind. All moving parts are as simple as possible and of substantial construction. Fitted in serviceable iron case.

Catalogue No.	Approx. Weight.	Dimensions.			Price each.		
	lbs.	Length.	Width.	Depth.			
		inches.	inches.	inches.	£	s.	d.
<b>L 4272</b>	27	12½	8½	7	<b>25</b>	<b>0</b>	<b>0</b>

## LUMINOUS LEVEL INDICATOR



**L 4277**

This Indicator can be supplied from 2 to 7 levels. It consists of a cast iron case, having a separate panel for each level with the name of the level stencilled on the reverse side of the glass. Behind this is a compartment containing a lamp which is illuminated when a signal is given, indicating the level originating the signal. The panel remains illuminated until the next call is made, or it can be cancelled by a contact key. The latter can be under the control of the engine man if desired. The case is weather and drip proof.

Catalogue No.	Levels.	Approx. Weight.	Dimensions.			Price each.		
		lbs.	Length.	Width.	Depth.			
			inches.	inches.	inches.	£	s.	d.
<b>L 4277</b>	2	36	12½	10½	7½	<b>11</b>	<b>0</b>	<b>0</b>
	3	45	16	10½	7½	<b>15</b>	<b>0</b>	<b>0</b>
	4	55	18½	10½	7½	<b>20</b>	<b>0</b>	<b>0</b>

*Indicators for 5, 6 and 7 Levels—Prices on application.*

**NOTE**—When ordering please specify number of Levels required.

## PARLOUR TELEPHONES

WITHOUT INDUCTION COIL

FOR CONNECTION TO EXISTING ELECTRIC BELL SYSTEMS



K 7730



K 7740



K 7741



K 7766

Hand combinations fitted with black hardwood handles and speaking key, double pole receiver, carbon granule transmitter with mouthpiece ; all metal parts oxidised copper bronze.

Cat. No.	Description.	Price each.		
		£	s.	d.
K 7730	Hand combination for Reception or Bedrooms, complete with black bakelite push with hook K 7781, and 2-pin plug K 7784. To ring one way only.. Weight 10 oz. Dimensions $10\frac{1}{2} \times 2\frac{1}{2} \times 3$ ins.		17	6
K 7740	Hand combination for Kitchen or Service Room, complete with circular walnut block, and terminals .. Weight 10 oz. Dimensions $10\frac{1}{2} \times 2\frac{1}{2} \times 3$ ins.		17	6
K 7741	Hand combination with circular walnut wall rosette, with ringing key, for ringing both ways, and terminals to which a bell can be connected .. .. Weight 16 oz. Dimensions $10\frac{1}{2} \times 2\frac{1}{2} \times 3$ ins.		17	6
K 7766	Superior hand combination, with speaking and ringing keys in ebonite handle, complete with black bakelite push K 7781 and two-pin black bakelite plug K 7784. To ring one way only, similarly to K 7730 .. .. . Weight 18 oz. Dimensions $11 \times 2\frac{1}{2} \times 2\frac{1}{2}$ ins.	1	15	0

*Diagrams of connections available on application.*

*NOTE : When ordering spare parts, the Catalogue Number of the instrument for which they are required should be stated.*

### "STERLING" TELEPHONES

The **G.E.C.** has taken over the whole of the manufacture and sale of Domestic Telephones and Accessories of the **Sterling Telephone & Electric Co., Ltd.** Certain products formerly listed by that Company are now described and illustrated in this Catalogue under new K code numbers, and for the convenience of purchasers who desire to specify in their orders Sterling type Domestic Telephones, a cross index showing the K Catalogue Numbers together with the old equivalent Sterling U Numbers is given in the Numerical Index at the rear of this Catalogue under the initial letter U.

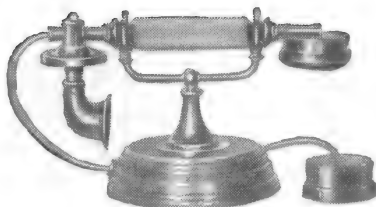
# S.E.C.

## DIRECT WORKING TELEPHONES

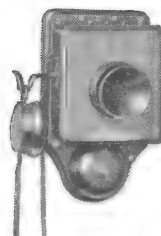
WITHOUT INDUCTION COIL  
FOR ATTACHMENT TO EXISTING BELL CIRCUITS  
OR WORKING IN PAIRS



K 7746



K 7796



K 7750

Cabinet work of well-seasoned walnut ; external metal parts oxidised copper bronze.

Telephones described on this page can be used to work in pairs, for ringing and speaking both ways ; by the aid of a K **8500** switch and an ordinary battery bell, three stations can be connected, i.e., " A " station to ring and speak both ways to " B " and " C " stations only ; " B " and " C " stations cannot communicate with each other.



K 7735



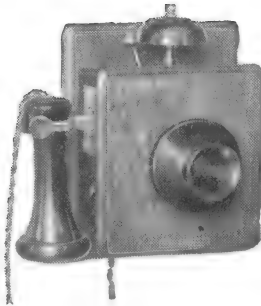
K 7790

Cat. No.	Description.	Price each.		
		£	s.	d.
K 7735	Hand combination with black hardwood handle and 3 in. circular bell, ringing key, and terminals mounted on walnut base, arranged for ringing both ways .. .. . Weight 1 lb. 10 ozs. Dimensions $10\frac{1}{2} \times 4\frac{1}{4} \times 3$ ins.	1	10	0
K 7746	Wall pattern telephone without bell, comprising K 7670 carbon granule transmitter, K 7630 double-pole " Watch " receiver, switch hook and ringing key. Line terminals are arranged to allow for bell to be added if required, to ring both ways .. .. . Weight 1 lb. Dimensions $7\frac{1}{2} \times 5 \times 3$ ins.	1	5	0
K 7750	Wall pattern telephone, with 5 ohm trembling bell on tail piece fitted with $2\frac{3}{4}$ in. gong ; all other parts similar to K 7746 .. .. . Weight 2 lb. 8 ozs. Dimensions $8\frac{1}{2} \times 6 \times 5$ ins.	1	17	6
K 7790	Wall pattern telephone, with hand combination, 3 in. circular bell wound to 5 ohms, and ringing key : mounted on circular base with line terminals .. .. . Weight 2 lb. 8 ozs. Dimensions $15 \times 5\frac{1}{2} \times 2\frac{1}{2}$ ins.	2	10	0
K 7796	Table pattern telephone, with buzzer wound to 5 ohms, ringing key and cradle ; mounted on circular base, with flexible cord and wall rosette .. .. . Weight 3 lb. Dimensions $10\frac{1}{2} \times 6\frac{1}{2} \times 5\frac{1}{2}$ in.	3	0	0

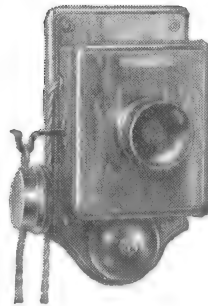
Diagrams of connections available on application.

NOTE : When ordering spare parts, the Catalogue Number of the instrument for which they are required should be stated.

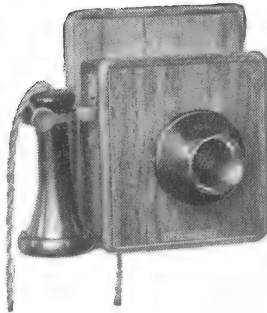
## BATTERY CALL TELEPHONES WITH INDUCTION COIL



**K 7842**



**K 7820**



**K 7843**

**These instruments are suitable for working in conjunction with those on page 824.**

Cabinet work of well-seasoned walnut; external metal parts oxidised copper bronze.

Telephone instruments described here and on page 824 can be used together for the following requirements:—

Connected up in pairs, to ring and speak both ways over approximately half a mile, on a double line or single line with earth return.

To connect up three stations by the use of a K **8500** switch and a K **8313** bell, to enable "A" station to ring and speak both ways to "B" and "C" stations only; the latter cannot communicate with each other.

To connect up three stations by the use of a K **8510** switch and a K **8313** bell, to enable "A" station to ring and speak both ways to "B" and "C" stations, and the latter stations to speak together by "A" station placing the K **8510** switch in the through position.

Where a number of telephones are required in a building, these telephones can be installed to work in conjunction with Battery Call Switchboards K **8335**, K **8350** and K **8360** with an operator in attendance (see page 844).

Cat. No.	Description.	Price each.		
		£	s.	d.
<b>K 7820</b>	Wall pattern battery call telephone, comprising K <b>7670</b> carbon granule transmitter, K <b>7630</b> "Watch" pattern double-pole receiver, K <b>7728</b> induction coil, automatic switch hook, ringing key and 25 ohm bell on tail piece . . . . .	<b>2</b>	<b>7</b>	<b>6</b>
	Weight, 3 lbs. 8 ozs. Dimensions, 10×7×5 ins.			
<b>K 7826</b>	Backboard only, with battery box to accommodate three No. 3 G.E.C. dry cells, with space for mounting a K <b>7820</b> telephone . . . . .	<b>1</b>	<b>12</b>	<b>0</b>
	Weight, 3 lbs. 4 ozs. Dimensions, 20×9×4½ ins.			
<b>K 7842</b>	Superior pattern battery call wall telephone, comprising K <b>7685</b> P.O. pattern long distance speaking solid-back transmitter, K <b>7615</b> double pole "Bell" type receiver, automatic switch with removable hook, K <b>7728</b> induction coil, ring key, and best quality 25 ohm bell movement, with pillar and gong mounted on top of the case . . . . .	<b>4</b>	<b>4</b>	<b>0</b>
	Weight, 6 lbs. Dimensions, 9×9×6 ins.			
<b>K 7843</b>	Similar to K <b>7842</b> without bell, but with terminals to which can be attached a relay or bell . . . . .	<b>3</b>	<b>10</b>	<b>0</b>
	Weight, 5 lbs. 2 ozs. Dimensions, 8½×9×6 ins.			

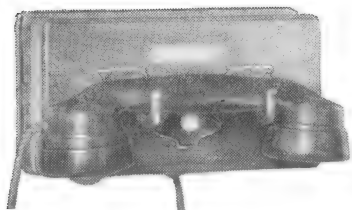
*Diagrams of connections available on application.*

*NOTE: When ordering spare parts, the Catalogue Number of the instrument for which they are required should be stated.*

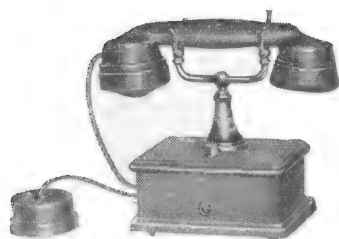
# S.E.C.

## BATTERY CALL TELEPHONES

WITH INDUCTION COIL AND BAKELITE HAND COMBINATION



K 7847



K 7851



K 7855

Cat. No.	Description.	Price each.
		£ s. d.
K 7847	Wall pattern battery call telephone, comprising latest pattern brown bakelite handset, without speaking key in handle, fitted with a superior quality double pole receiver and improved type inset transmitter, easily removable; automatic switch-hook, ringing key, K 7728 induction coil, and 25 ohm buzzer Weight 4 lb. Dimensions 9×5×5½ ins.	3 10 0
K 7851	Table pattern, similar to K 7847, but fitted with a cradle switch and flexible cord, with rosette .. Weight 4 lb. Dimensions 9×8×4½ ins.	4 4 0
K 7855	Table pattern, comprising black bakelite case, complete with latest pattern handset, without key in handle, fitted with a superior quality receiver and improved type of inset transmitter which can be easily removed, flexible cord and terminal block, automatic switch-hook, ringing key and buzzer .. .. Weight 3 lb. 10 oz. Dimensions 9×6×5½ ins.	4 7 6

The above are suitable for working in conjunction with, or for the same purposes as those on page 823.

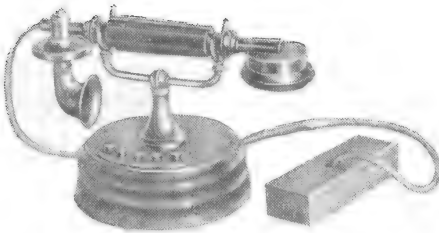
Diagrams of connections available on application.

NOTE: When ordering spare parts, the Catalogue Number of the instrument for which they are required should be stated.

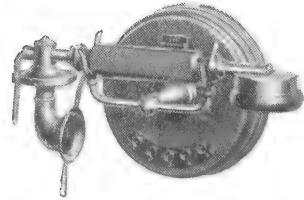


# CENTRAL BATTERY DOMESTIC INTERPHONES

## CONVERTIBLE TYPE



**K 7864**  
Converted for table use.



**K 7864**  
For wall mounting.

The Central Battery Domestic Interphone is intended for use under conditions in which a neat and simple telephone is required, such as in private residences, small suites of offices, etc., where it is unusual for more than one conversation to be necessary at one time.

It consists of a hand combination, cradle support, selective ringing keys, call buzzer wound to 5 ohms, flexible cord, and connecting wall block.

This telephone is also supplied as table pattern as illustrated above. An ingenious feature of its design enables the set to be quickly converted into a wall set.

The cabinet work is of well-seasoned walnut ; external metal parts are finished in oxidised copper bronze.

With each installation a **K 7863** Battery Impedance Coil is necessary, comprising coil and terminals mounted on a brown bakelite base, with cover.

The telephone is equipped for 5 lines ; it can also be used as a central station set to work in conjunction with the instruments **K 7735**, **K 7746**, **K 7750**, **K 7790** and **K 7796**, illustrated on page 822, as sub-stations, to ring and speak both ways to the central station only. In this instance the **K 7863** is not required.

**These instruments will not work with those on pages 826/7/8.**

Cat. No.	Description.	Price each.
<b>K 7863</b>	Impedance Coil .. .. <i>For use with K 7864.</i> Weight, 5 ozs. Dimensions, 3×3×2½ ins.	£ s. d. <b>8 6</b>
<b>K 7864</b>	Table or Wall Instrument .. Weight, 3 lbs. 6 ozs. Dimensions, 6½×10 ins.	<b>3 7 6</b>



**K 7863**

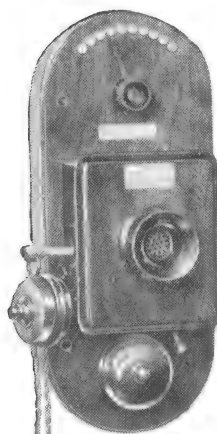
*Diagram of connections available on application.*

**NOTE :** *When ordering spare parts, the Catalogue Number of the instrument for which they are required should be stated.*

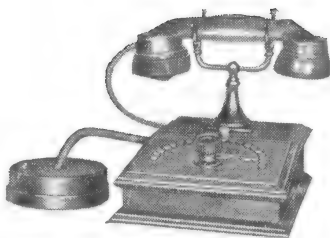
## INTERCOMMUNICATION TELEPHONES

WITHOUT INDUCTION COIL.

ELECTRO-MAGNETIC AUTO-RESET TYPE



**K 7867**



**K 7888**

Cabinet work of well-seasoned walnut.

Fitted with self-replacement device attached to the ringing key and switch hook. Outward conversation finished, replacing receiver or handset on switch hook or cradle automatically disconnects radial switch from instrument speaking circuit. Only necessary to move radial switch when making

outward call; calls received and answered whatever position of radial switch. Contact with more than one line at a time cannot be made. Receiver, or handset, should be removed from switch hook before making an outward call.

Switch contacts and line terminals fitted at back of instrument, well protected from dust and rough handling.

To facilitate wiring wall instrument provided with hinged fixing batten. Inductive cross-talk reduced to a minimum.

Pirelli-General anti-inductive intercommunication telephone cables, Class No. 992 braided, and No. 993 lead covered are recommended for use with these instruments. Two central batteries, one each for ringing and speaking, each comprising three No. 1 Carsak cells, L **4885**, are all that are required, local batteries being dispensed with.

These instruments are suitable for working in conjunction with the Sterling "Primax" systems, and with those described on pages 827 and 828.

Instruments fitted with induction coil, and arranged for ordinary local or central battery circuits, can be obtained for extension to existing installations at extra charge. When ordering instruments for this purpose, state particular circuit required.

Cat. No.	Description.	Price each.
		£ s. d.
<b>K 7867</b>	Wall type telephone, comprising radial switch, K <b>7670</b> carbon granule transmitter, K <b>7631</b> "Watch" pattern electro-magnetic receiver, auto-reset ringing key, automatic switch hook, impedance coil and 25 ohm bell on tail piece. External metal parts oxidised copper bronze.	
	Weight: 6 lines, 5 lbs. 7 oz. .. ..	<b>3 8 0</b>
	11 lines, 5 lbs. 8 oz. .. ..	<b>3 12 0</b>
	16 lines, 5 lbs. 11 oz. .. ..	<b>3 16 0</b>
	21 lines, 5 lbs. 12 oz. .. ..	<b>4 0 0</b>
	Dimensions, 14 × 8 × 6 ins.	
<b>K 7888</b>	Table type telephone, comprising radial switch, automatic cradle, auto-reset ringing key, impedance coil, 25 ohm buzzer, brown bakelite handset without speaking key in handle, fitted with receiver and inset transmitter which can be easily removed, flexible cord, and wall rosette. External metal parts coin bronze.	
	Weight: 6 lines, 5 lbs. 6 oz. .. ..	<b>5 5 0</b>
	11 lines, 5 lbs. 10 oz. .. ..	<b>5 15 0</b>
	16 lines, 6 lbs. .. ..	<b>6 5 0</b>
	21 lines, 6 lbs. 4 oz. .. ..	<b>6 15 0</b>
	Dimensions, 9½ × 9 × 8 ins.	
	Extra charge when fitted with induction coil ..	<b>15 0</b>

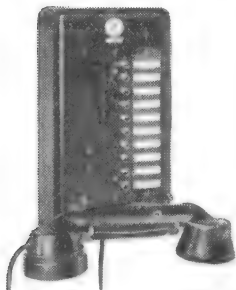
For junction boxes see page 851.

Diagram of connections available on application.

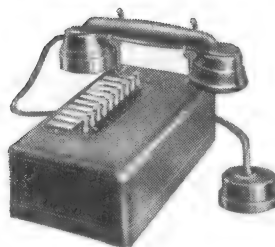
**NOTE:** When ordering spare parts, the Catalogue Number of the instrument for which they are required should be stated.

## INTERCOMMUNICATION TELEPHONES

WITHOUT INDUCTION COIL  
ELECTRO-MAGNETIC AUTO-RESET TYPE



**K 7907**  
Wall Pattern.



**K 7913**  
Table Pattern.

These instruments are equipped with a combined line selector and ringing key in the form of a push button, which, when pressed, rings and selects the number required in one operation. The buttons are held down during an outward conversation by an auto-reset device, which restores the key to the normal position immediately the handset has been placed on the cradle after a conversation has ceased. Before an outward call is made, it is necessary to remove the handset from the cradle. The button of any one line should only be pressed when making an outward call; all incoming calls are answered merely by removing the handset from the cradle. Designation strips are fitted at the side of each row of buttons.

All working parts are mounted on a strong steel frame with machine screws and fixed on a hardwood base, with a black stove-enamelled pressed steel cover overall. All instruments are made to the same dimensions, irrespective of the number of lines, and are so arranged that small capacity instruments can be extended on site by units of 5 lines, up to their full capacity of 21 lines. Spare parts are obtainable for making extensions.

These instruments are suitable for working in conjunction with the Sterling "Primax" system, and with those described on pages 826 and 828 with similar cable and batteries.

Cat. No.	Description.	Price each.		
		£	s.	d.
<b>K 7907</b>	Wall type telephone, comprising automatic cradle switch, 25 ohm buzzer, impedance coil, and latest pattern black bakelite handset without battery key in handle, fitted with a superior quality electro-magnetic receiver and improved type inset transmitter, which can be easily removed.			
	Weight: 6 lines, 7 lbs. 4 oz. .. .. .	<b>6</b>	<b>0</b>	<b>0</b>
	11 lines, 7 lbs. 6 oz. .. .. .	<b>6</b>	<b>10</b>	<b>0</b>
	16 lines, 7 lbs. 10 oz. .. .. .	<b>7</b>	<b>0</b>	<b>0</b>
	21 lines, 7 lbs. 14 oz. .. .. .	<b>7</b>	<b>10</b>	<b>0</b>
	Dimensions, 10×9×7 ins.			
<b>K 7913</b>	Table type telephone, similar to K 7907, but fitted with flexible cord and black bakelite wall rosette.			
	Weight: 6 lines, 7 lbs. 10 oz. .. .. .	<b>7</b>	<b>7</b>	<b>6</b>
	11 lines, 8 lbs. .. .. .	<b>7</b>	<b>17</b>	<b>6</b>
	16 lines, 8 lbs. 8 oz. .. .. .	<b>8</b>	<b>7</b>	<b>6</b>
	21 lines, 8 lbs. 14 oz. .. .. .	<b>8</b>	<b>17</b>	<b>6</b>
	Dimensions, 10×9×7 ins.			
	Extra when fitted with induction coil .. .. .	<b>15</b>	<b>0</b>	

For junction boxes see page 851.

Diagrams of connections available on application.

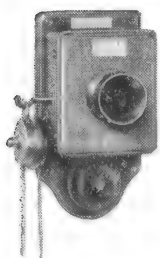
NOTE: When ordering spare parts, the Catalogue Number of the instrument for which they are required should be stated.

## SUB-STATION TELEPHONES

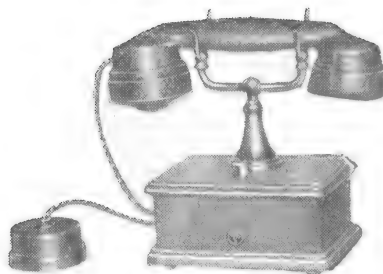
WITHOUT INDUCTION COIL

ELECTRO MAGNETIC AUTO-RESET TYPE

**These instruments are not suitable for working in pairs.**



**K 7953**



**K 7967**

Cabinet work of well-seasoned walnut.

This particular type of telephone is known as the "Sub-Station" telephone. The term "Reply and Call" is incorrectly applied to the ordinary battery call telephones, illustrated on pages 823 and 824.

The circuit and construction, as well as the operation, are similar to the inter-communication telephones described on page 826, except that they are without a radial selector, and without any means of inter-communication between sub-stations. The central station instrument can be any of the telephones illustrated and described on pages 826 and 827.

This system has been designed to enable a manager or other official to obtain telephonic communication with certain members of his staff both ways, while the staff can have no communication with each other.

It is necessary to have six wires running between the central station instrument and every sub-station, i.e., 4 common battery wires (2 for the talking battery and 2 for the ringing battery), one common call wire, and a separate reply wire from each instrument.

Instruments fitted with induction coil and arranged for ordinary local or central battery circuits can be obtained for extension to existing installations at an extra charge. When ordering instruments for this purpose, state the particular circuit required.

Cat. No.	Description.	Price each.
		£ s. d.
<b>K 7953</b>	Wall telephones, comprising <b>K 7670</b> carbon granule transmitter, <b>K 7631</b> "Watch" pattern electro-magnet receiver, auto-reset ringing key, automatic switch hook, impedance coil and 25 ohm bell on tail piece. External metal parts oxidised copper bronze .. .. . Weight, 3 lbs. 8 oz. Dimensions, 10×7×5 ins.	<b>3 0 0</b>
<b>K 7967</b>	Table telephone, comprising automatic cradle switch, auto-reset ringing key, impedance coil, 25 ohm buzzer, latest pattern brown bakelite handset without speaking key in handle, fitted with a superior quality receiver and improved type inset transmitter, which can be easily removed, flexible cord and wall rosette. External metal parts coin bronze .. .. . Weight, 4 lbs. Dimensions, 9×8×4½ ins.	<b>4 18 0</b>
	Extra when fitted with induction coil.. .. .	<b>15 0</b>

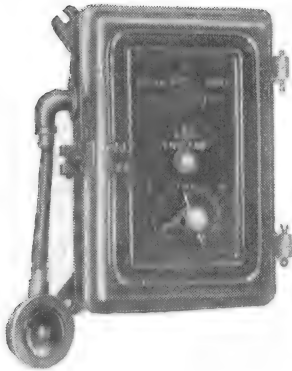
For junction boxes see page 851.

Diagram of connections available on application.

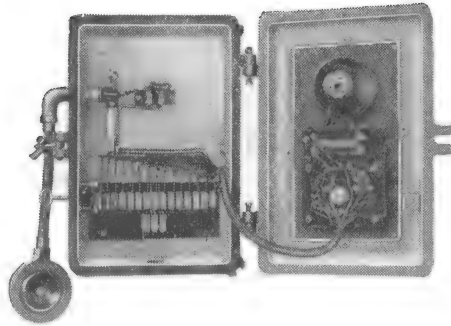
**NOTE :** When ordering spare parts, the Catalogue Number of the instrument for which they are required should be stated.

# TRADESMAN'S BATTERY CALL TELEPHONES

WITH INDUCTION COIL  
SPECIALLY DESIGNED FOR FLATS



K 7915 (closed).



K 7915 (open for inspection).

## IRON CASED AND WEATHERPROOF.

The Tradesman's Battery Call "Service" Telephone is designed primarily for the convenience of occupiers of large modern blocks of flats, who frequently suffer annoyance from tradesmen's representatives calling from door to door to solicit or deliver orders. This trouble can easily be overcome by the use of the Battery Call Service Telephone System here described.

Made in cast iron case, the K 7915 is weatherproof and can be fixed near the service lift, or in any other convenient position either in or outside the building. Simple to operate and efficient in its service, this system not only prevents the annoyance referred to above, but is noiseless and a time saver.

By means of the selector switch any one of a numbered series of flats can be selected and called by pressing the ringing key button.

The receiver, which is fitted into an iron case attached to a flexible metal tube, when raised to the ear automatically connects the speaking battery to the transmitter, the latter being mounted on the back of the front plate and indicated by the perforated disc, into which the caller should speak.

A conversation having been finished, the receiver automatically returns to its normal position and cuts off the battery current.

The necessary wiring is simple, as only one wire from each flat to the K 7915 is necessary, and two common wires throughout from the central battery of three to four cells.

Telephone instruments described on pages 823 and 824 are suitable instruments for use inside in the flat.

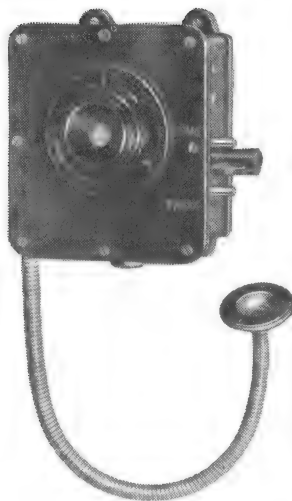
## PRICES ON APPLICATION.

*NOTE : When ordering spare parts, the Catalogue Number of the instrument for which they are required should be stated.*

# S.E.C.

## BATTERY CALL TELEPHONE

MINING PATTERN. WITHOUT BELL ATTACHED



K 8097

The Battery Call Mining Telephone is designed for use with a separate bell, or relay and bell, according to the length of line, also with external speaking and ringing batteries. Suitable bell and relays are described on pages 811 to 814 and suitable batteries on pages 792 to 798.

**This instrument has been approved by the Mines Department as being electrically safe in fiery mines.**

Particular care has been taken to make the joint between the front plate and the case both flameproof and watertight. The flanges have a wide machined surface, so as to cool effectively any hot gases escaping as a result of any internal explosion.

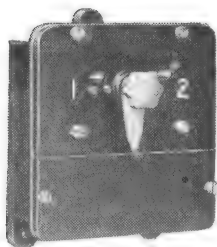
The receiver, which is of the loud-speaking type, is fitted inside the case and has a flexible metallic listening tube with strain wire and earpiece.

The transmitter is the "Inset" type, waterproof, and protected by a metal grid.

The speaking and ringing circuits are controlled by a two-way switch, fitted on the right of the instrument, and this, together with the induction coil and connecting terminals, are mounted on ebonite. All coils are treated to prevent the detrimental effects of moisture and gases.

Cat. No.	Description.	Price each.
K 8097	Battery Call Mining Telephone .. Weight, 20 lbs. Dimensions, 9 x 9 x 6 ins.	£ 8 s. 1 d. 6

## GAS-PROOF AND WATERTIGHT EXTENSION SWITCH



K 8520

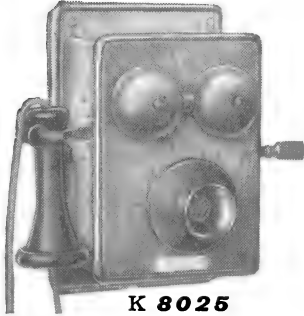
This switch can be used as an extension or junction switch, and is arranged so as to enable "A" to ring and speak with "B" and "C" or vice versa, and "A" to switch "B" and "C" through to each other. It is necessary to have an extension bell to operate with this switch, similar to that recommended for the K 8097 telephone above.

Cat. No.	Description.	Price each.
K 8520	Gas and watertight cast iron case Extension or Junction Switch .. Weight, 13½ lbs. Dimensions, 7½ x 6½ x 4½ ins.	£ 4 s. 15 d. 0

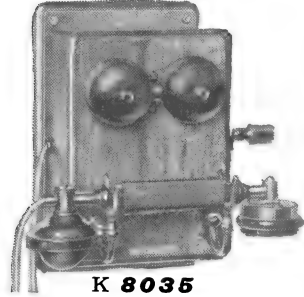
*NOTE : When ordering spare parts, the Catalogue Number of the instrument for which they are required should be stated.*

## MAGNETO RINGING TELEPHONES

FOR SHIORT AND LONG DISTANCE WORKING  
WALL PATTERN



K 8025



K 8035

Cabinet work of well-seasoned walnut ; external metal parts oxidised finish.

Instruments on this and page 832 can be used together and for the following purposes:—

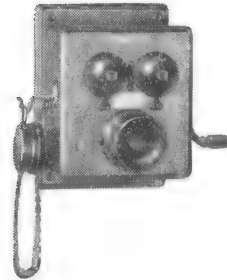
Connected up in pairs to ring and speak both ways.

To connect three stations by the use of a K 8500 switch and K 8300/4 and K 8312 bells to enable "A" station to ring and speak both ways to "B" and "C" stations only ; the latter cannot communicate together.

To connect three stations by use of a K 8510 or K 8530 switch and K 8300/4 and K 8312 bells to enable "A" station to ring and speak both ways to "B" and "C" stations, and the latter stations to speak together by "A" station placing the K 8510 or K 8530 switch in the through position.

Where a number of stations require to communicate with each other, Telephone Switchboards K 8335, K 8350 and K 8360 should be installed with these instruments.

Cat. No.	Description.	Price each.
		£ s. d.
K 8005	Wall pattern magneto call telephone, comprising two-magnet generator K 8690, double pole watch receiver K 7630, induction coil K 7728, carbon granule transmitter K 7670, polarised call bell wound to 300 ohms, and automatic switch hook . . . . .	5 8 0
	Weight, 7 lbs. 10 oz.	
	Dimensions, $9 \times 7\frac{1}{4} \times 7$ ins.	
K 8025	Wall pattern magneto call telephone, comprising three-magnet generator K 8695, solid back transmitter K 7685, double pole "Bell" receiver K 7615, polarised call bell wound to 1,000 ohms, induction coil K 7728, and automatic switch hook . . . . .	7 0 0
	Weight, 10 lbs. 11 oz.	
	Dimensions, $10\frac{1}{2} \times 7\frac{1}{4} \times 7$ ins.	
K 8030	Similar to K 8025, but fitted with four-magnet generator K 8700 . . . . .	7 17 6
	Weight, 13 lbs. 8 oz.	
	Dimensions, $10\frac{1}{2} \times 7\frac{1}{4} \times 7$ ins.	
K 8035	Similar to K 8025, but with K 7709 hand combination with solid back transmitter and battery key . . . . .	8 7 6
	Weight, 11 lbs. 6 oz.	
	Dimensions, $10\frac{1}{2} \times 7\frac{1}{2} \times 8\frac{1}{2}$ ins.	



K 8005

For Magneto Ringing  
Telephones for use in  
mines see pages 834  
835 and 836.

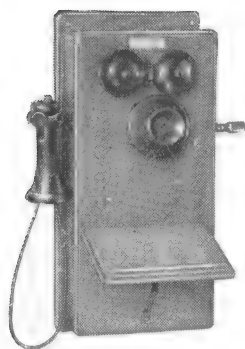
Diagram of connections available on application.

NOTE : When ordering spare parts, the Catalogue Number of the instrument for which they are required should be stated.

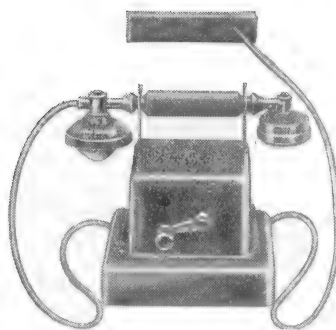
# G.E.C.

## MAGNETO RINGING TELEPHONES

FOR SHIORT AND LONG DISTANCE WORKING  
WALL AND TABLE PATTERNS



K 8055/7



K 8058/9

Cabinet work of well-seasoned walnut ; external metal parts oxidised finish

Cat. No.	Description.	Price each.
		£ s. d.
K 8055	Wall pattern magneto call telephone, comprising three-magnet generator K 8695, double pole "Bell" receiver K 7615, solid back long-distance speaking transmitter K 7685 fitted to an adjustable arm, induction coil K 7728, polarised bell wound to 1,000 ohms, automatic switch hook, and battery box to accommodate two No. 2 G.E.C. Dry Cells .. Weight, 18 lbs. Dimensions, $18\frac{1}{2} \times 8\frac{1}{2} \times 10\frac{1}{2}$ ins.	8 0 0
K 8056	Similar instrument to K 8055, but fitted with four-magnet generator K 8700 .. Weight, 18 lbs. 8 oz. Dimensions, $18\frac{1}{2} \times 8\frac{1}{2} \times 10\frac{1}{2}$ ins.	8 8 0
K 8057	Similar instrument to K 8056, but fitted with five-magnet generator K 8702 .. Weight, 19 lbs. Dimensions, $18\frac{1}{2} \times 8\frac{1}{2} \times 10\frac{1}{2}$ ins.	8 18 0
K 8058	Table pattern magneto call telephone, comprising hand combination similar to K 7707, but with solid back long-distance speaking transmitter with metal mouthpiece, induction coil K 7728, automatic cradle switch, three-magnet generator, polarised call bell wound to 1,000 ohms, flexible cord and wall rosette. Case of pressed steel, stove-enamelled black Weight, 11 lbs. 8 oz. Dimensions, $8\frac{1}{2} \times 10 \times 7\frac{1}{2}$ ins.	8 8 0
K 8059	Similar instrument to K 8058, but fitted with four-magnet generator .. Weight, 11 lbs. 12 oz. Dimensions, $8\frac{1}{2} \times 10 \times 7\frac{1}{2}$ ins.	8 15 0

The Instruments described above will work in conjunction with those on page 831 and for the same purposes.

Diagram of connections available on application.

NOTE : When ordering spare parts, the Catalogue Number of the instrument for which they are required should be stated.

For Magneto Ringing Telephones for use in mines see pages 834, 835 and 836.



## CENTRAL BATTERY TELEPHONES

FOR USE WITH CENTRAL BATTERY SWITCHBOARDS ONLY

**K 8146.**—Wall pattern central battery telephone, comprising P.O. type long distance speaking solid back transmitter, "Bell" shape electro-magnetic receiver, polarised call bell wound to 1,000 ohms resistance, condenser, and automatic switch hook. Cabinet work of well-seasoned walnut.

**K 8167.**—Table pattern central battery telephone of the latest design, comprising black bakelite hand combination, without key in handle, fitted with an improved type of inset transmitter easily removable if necessary, also a superior quality receiver, polarised call bell wound to 1,000 ohms resistance, condenser, and automatic switch cradle, flexible cord, and wall terminal strip. The whole of the case is of black bakelite.

**These telephone instruments are NOT suitable for working in pairs but with switchboards only.**

*For central battery switchboard see page 845.*

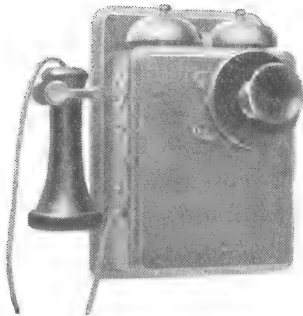
Cat. No.	Description.	Price each.
		£ s. d.
K 8146	Wall pattern .. .. Weight, 7 lbs. Dimensions, 8×6½×5 ins.	4 0 0
K 8167	Table pattern .. .. Weight, 5 lbs. 8 oz. Dimensions, 9×6½×5½ ins.	4 4 0

*The above instruments can be supplied for use in tropical climates at an extra charge.*

## PORTABLE TELEPHONES

Cat. No.	Description.	Price each.
		£ s. d.
K 8225	Linesman's portable magneto call telephone, comprising three-magnet generator, hand combination K 7709, with transmitter K 7681, induction coil K 7728, polarised call buzzer wound to 300 ohms, two No. 4 G.E.C. dry cells, case of well-seasoned teak and leathersling strap Weight, 11 lbs. 2 oz. Dimensions, 11½×8½×4½ ins.	9 7 6
K 8230	Portable magneto call telephone, comprising three-magnet generator, hand combination K 7709 with solid back transmitter, induction coil K 7728, polarised call bell wound to 1,000 ohms, one No. 3 G.E.C. dry cell, all mounted on an aluminium frame and fitted in a strong leather case with leather sling straps .. .. Weight, 10 lbs. 8 oz. Dimensions, 10½×9½×3½ ins.	13 12 0

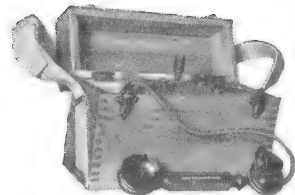
**NOTE :** When ordering spare parts, the Catalogue Number of the instrument for which they are required should be stated



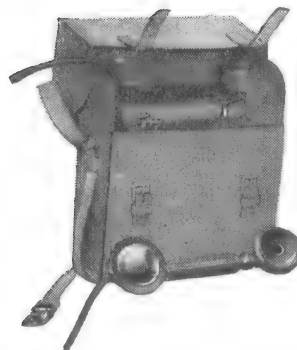
K 8146



K 8167



K 8225



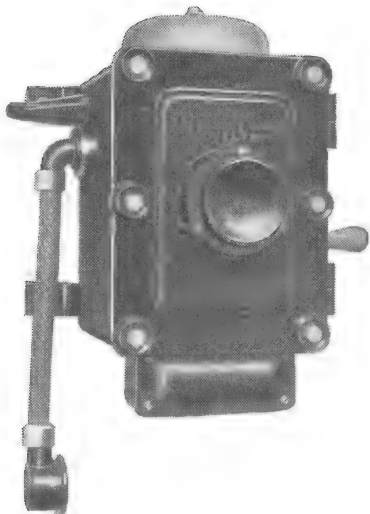
K 8230

**G.E.C.**

## MAGNETO CALL MINING TELEPHONE

(CERTIFIED BY H.M. MINES DEPARTMENT)

FLAMEPROOF AND INTRINSICALLY SAFE



K 8100

**This instrument can be used in conjunction with those on pages 835, 836 and 837.**

Specially designed to meet mining requirements and to comply with H.M. Home Office Regulations. The cast-iron case is strong and well finished, particular care being taken to make the joint between the case and lid flameproof as well as watertight. The flanges are one inch in width and machined so as to cool effectively any hot gases escaping as a result of an internal explosion. The cover is securely bolted to the case. The internal unoccupied space is kept down to a minimum so as to limit the amount of explosive gas which might accumulate.

The equipment comprises :—

**Powerful Generator**, with canvas drive, and fitted with strong handle working through a flameproof and watertight gland.

**Polarised Ringing Movement** wound to a resistance of 1,600 ohms and fitted with 6-inch gong. The bobbins are wound with enamelled wire.

**Solid Back Long Distance Transmitter** fitted in an iron chamber on the front of door, the diaphragm being protected from damage by a fine-meshed brass gauze. An induction coil wound with enamelled wire is fitted inside the case.

**Double Pole "Bell" Receiver.** This receiver is fitted inside the case and is arranged so as to revolve when the listening tube (which is fitted on the left-hand side) is lifted to the ear. At the diaphragm end of the receiver a cam is fitted. This revolves with the receiver and at the same time operates the switch springs controlling the speaking battery and receiver circuits. The gland through which the tube passes is flameproof and watertight.

**Two No. 2 G.E.C. Dry Cells** are fitted in metal containers which are mounted on the inside of the door by means of a metal band.

Attached to the bottom of the case is a chamber which contains strong and well-designed **line terminals**.

**Four lugs** are fitted on the sides and back of the instrument for fixing.

Cat. No.	Weight.	Dimensions.				Price each.		
K 8100	lbs. 80	19½ × 14½ × 10½ ins.	..	..	..	£	s.	d.
						18	18	0

# MAGNETO CALL MINING TELEPHONE

(CERTIFIED BY H.M. MINES DEPARTMENT)

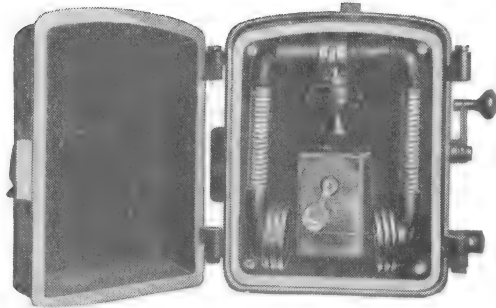
FLAMEPROOF AND INTRINSICALLY SAFE

**This instrument can be used in conjunction with those on pages 834, 836 and 837.**

Comprising powerful five-magnet generator, 1,000 ohm detached call bell with 6-in. gongs, two inset receivers with rubber protecting caps, inset granular carbon microphone, induction coil, 2 G.E.C. dry cells.

The whole is mounted in a water-proof cast iron case, provided with outer and inner doors. The outer door is secured by means of a substantial locking handle which is quickly and easily operated. This

gives access to the operative parts of the telephone. The inner door gives access to the interior when it is required to renew the microphone batteries.



**K 8099**

It will be observed that the receivers are mounted on flexible arms. Raising either or both of these to the ear brings the transmitter into the speaking position, and by means of plungers working in long packed bearings operates the automatic switch contacts mounted inside. This movement taking place every time the telephone is used maintains the microphone in a lively condition.

Elaborate precautions have been taken to meet the requirements of the Mines Department with regard to flameproof apparatus in fiery mines and at the same time to guard the telephone from damage due to handling by mischievous and careless persons. The microphone and receivers are enclosed in metal cases which can only be opened by means of a special key. In like manner a special key is required to open the inner door.

The generator contacts and automatic switch contacts are each enclosed in a flameproof chamber, a precaution which makes it possible to open the instrument with safety even in a gaseous atmosphere.

It will be noticed that the whole of the working parts are mounted on the inner door. The latter can be readily removed from its hinges and taken to the surface for repairs, if required, without the necessity of removing the entire telephone.

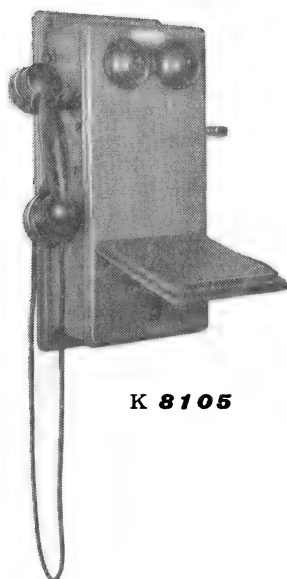
A bell is not fitted to the instrument but is supplied separately (see illustration, K 8312, page 853).

Cat. No.	Description.	Price each.
		£ s. d.
<b>K 8099</b>	Instrument only, without bell ..	} <b>19 10 0</b>
	Weight, 81 lbs. Dimensions, $17\frac{1}{2} \times 15\frac{1}{2} \times 9\frac{1}{2}$ ins. ..	
	Magneto Bell K 8312 fitted with one 6-in. gong as shown on page 853 ..	
	Weight, 7 lbs. 12 oz. Dimensions, $13\frac{1}{2} \times 12 \times 3\frac{1}{2}$ ins. ..	

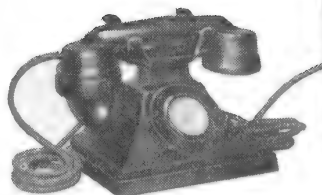
# S.E.C.

## MINING TELEPHONES

(CERTIFIED BY H.M. MINES DEPARTMENT)



K 8105



K 8107

### SURFACE TYPE WALL PATTERN

Designed to supply a need for a means of communication between the surface and an intrinsically safe system underground. In general it incorporates the same apparatus as is used in the K 8100 Type Telephone, and is fully certified by H.M. Mines Department.

The equipment comprises the latest pattern Gecophone hand combination, and is fitted with a special damp-proof cord, a 5-magnet generator, polarised twin gong bell, automatic switch-hook, induction coil and safety shunt and condenser. Cabinet of well-seasoned oak with compartment to hold two dry cells.

Cat. No.	Dimensions.	Weight.	Price each.
K 8105	18 $\frac{1}{2}$ × 8 $\frac{1}{2}$ × 6 $\frac{1}{2}$ ins. .. ..	20 lbs.	£ 9 s. 10 d.

### TABLE PATTERN

Uses the same apparatus as the K 8105. It comprises an all-black bakelite hand combination and pedestal in which is housed the automatic switch-hook and induction coil, and is connected to the generator box by means of a 54-in. cord. The generator box is made of well-seasoned walnut and holds the remainder of the apparatus specified for the wall telephone. Provision is not made to include the batteries.

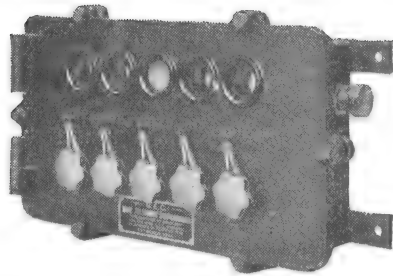
Cat. No.	Dimensions.	Weight.	Price each.
K 8107	{ Generator Box, 7 × 6 $\frac{1}{4}$ × 5 $\frac{1}{2}$ ins. Pedestal, 9 × 6 $\frac{1}{2}$ × 5 $\frac{1}{2}$ ins. }	13 lbs. 10 oz.	£ 7 s. 10 d.

## MINING TELEPHONE SWITCHBOARD

(CERTIFIED BY H.M. MINES DEPARTMENT)

This telephone switchboard has been designed for use with G.E.C. Telephones, Nos. **K 8099** and **K 8100** to give complete intrinsic safety. It is, therefore, eminently suitable for use in fiery mines.

The switchboard is encased in cast iron, in which glass covers for the drop indicators are firmly cemented. These indicators operate an extension bell. There is also a cordless arrangement for switching one line through to another, each line having three optional switching ways. Bells recommended for use as extension bells with this switchboard are G.E.C. types, Nos. **L 4225**, **L 4229** and **L 4231**, all approved and certified by H.M. Mines Department.



**K 8336**

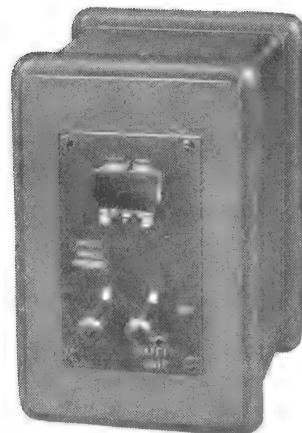
Cat. No.	Description.	Price
<b>K 8336</b>	Mines Telephone Switchboard— 5 lines : Weight, 38 lbs. Dimensions, 18×10×4½ ins. 10 lines : Weight, 56 lbs. Dimensions, 18×17×4½ ins.	On application

## MINING TELEPHONE COUPLING UNIT

(CERTIFIED BY H.M. MINES DEPARTMENT)

This unit enables surface type telephones which are uncertified as to safety, to operate with telephones underground which are intrinsically safe. An instrument of guaranteed safety must be provided for the operator, who rings through to the shaft telephone after depressing the ringing key on the coupler. When the surface instrument is plugged through, the ringing key having automatically returned to the off position, speech current passes through special condensers enclosed in the unit. Woodwork of polished walnut.

The illustration shows one priority key extra, which enables a special instrument *which must be intrinsically safe* to be switched through to shaft bottom at night. Price of priority switches **extra**—according to number.



**K 8338**

Cat. No.	Dimensions.	Weight.	Price each.		
		lbs. oz.	£	s.	d.
<b>K 8338</b>	4½×5½×6½ ins.	2 12	5	12	6

# G.E.C.

## PRIVATE AUTOMATIC TELEPHONE SYSTEM

### STANDARD FEATURES

A NUMBER OF THE STANDARD FEATURES WHICH DISTINGUISH THE G.E.C.—P.A.X. SYSTEM ARE SET OUT BELOW :



**K 8384**

Standard P.O. Wall Instrument.

(For details see page 840).

**Rapidity of Operation.**—Connection is established in two to three seconds, merely by lifting the receiver and dialling the desired number. Replacing the receiver instantly clears the line, allowing another call to be made immediately.

**Accuracy of Operation.**—Each telephone user directly controls the impulses sent out when dialling. It is therefore impossible to obtain a wrong number with correct dialling.

**Economy.**—No operator is required. The equipment has a very long life and its cost is low.

**Secrecy.**—The Standard circuits and apparatus are so designed that cross-talk, overhearing or listening-in are impossible. An audible signal in the receiver indicates whether a line is already engaged. Conversation is, therefore, absolutely secret.

**Day and Night Service.**—The use of the G.E.C.—P.A.X. system is not limited to any specific business hours. It is ready to handle a rush of traffic at any time during the day or night.

**Ease of Accommodation.**—G.E.C.—P.A.X. units are neat, compact in design, and, occupying the minimum possible space, can be installed practically anywhere.

**Adaptability and Flexibility.**—While fulfilling the needs of most users, special requirements can be catered for if desired.

A G.E.C.—P.A.X. system may be started with only a few lines, and extended to its ultimate limits at any time without difficulty or interruption to the existing service.

**Simplicity of Wiring.**—No complicated multiple cable is required, only a twin or triple conductor to each instrument.

**Simplicity of Maintenance.**—The automatic switching mechanism being very robust, maintenance is practically negligible. In addition, the circuits are arranged so as to localise the effects of any fault and to prevent its affecting the working of the system as a whole.

**Special Features.** Some of the special features which mark this system are referred to on the following page.

# PRIVATE AUTOMATIC TELEPHONE SYSTEM

## SPECIAL FEATURES

In addition to the standard features detailed on the preceding page, the G.E.C. Private Automatic Telephone Exchanges described on pages 841, 842 and 843 admit of the incorporation when required of a number of useful special services as follows :—

**Executive's Right-of-Way.**—Priority given to the calls of any privileged executive so that he can "get through" even if the wanted line is engaged.



**K 8385**

Standard Pedestal Table Instrument.  
*For details see page 840.*

**Secretary's Service.**—To save an executive being troubled by unimportant calls incoming calls can be received by his secretary, who can extend them at his discretion or according to his instructions. The executive, however, can be called direct by the use of another number, known only to a few privileged persons. Outgoing calls can be made either direct by the executive or, alternatively, by his secretary, who can obtain any desired number for him.

**Loudspeaking Telephones.**—These enable messages to be heard aloud without having to hold the receiver ; both hands are thus left free.

**Conference Line.**—By this means a conference can take place without any of the parties leaving their desks.

**Staff Locator.**—This feature enables important officials to be communicated with immediately no matter in what part of the premises they may be.

**Fire Alarm Service.**—This service can be incorporated in a G.E.C.-P.A.X. and arranged in many different ways according to the particular requirements of the user, e.g., in case of fire the dialling of the " fire number " automatically sounds all fire signals throughout, or in any section of, the premises. Those responsible for the Fire Brigade can then get into instant communication with the person giving the alarm.

**Watchman's Service.**—This arrangement can be used to control the watchman on his round or may be employed to raise an alarm in case of attack.

**Executive's Master Station.**—This enables an executive to get through to a number of selected stations with which he is in frequent communication without the necessity of dialling.

**Multi-Office Service.**—Provision can be made by means of junction lines for automatic intercommunication between two or more G.E.C.-P.A.X. units which may be situated in different buildings several miles apart.

To provide for any special requirements not described above, the G.E.C. places at the disposal of those interested, without obligation, the advice of its experienced telephone consultants.

# S.E.C.

## AUTOMATIC TELEPHONES

### FOR PRIVATE AUTOMATIC EXCHANGES WALL PATTERN

Cat. No.	Description.	Price each.
<b>K 8384</b>	Wall pattern automatic telephone, comprising long distance speaking solid back transmitter, electro-magnetic "bell" shape receiver, polarised call bell wound to 1,000 ohms resistance, condenser, automatic switch-hook and standard automatic dial. Cabinet work of well-seasoned walnut : finger plate of stainless steel and all other external metal parts oxidised finish. Weight, 6 lbs. 10 oz. Dimensions, $9\frac{1}{4} \times 9\frac{1}{2} \times 8$ ins.	On application

### PEDESTAL TABLE PATTERN

Cat. No.	Description.	Price each.
<b>K 8385</b>	Pedestal table pattern telephone, with bell box attached, comprising long distance speaking solid back transmitter, electro-magnetic "bell" shape receiver, automatic switch-hook, standard automatic dial and flexible cord attached to well-seasoned walnut case having mounted therein polarised call bell wound to 1,000 ohms and condenser. Weight, 10 lbs. Dimensions : Bell Box, $8\frac{1}{2} \times 6\frac{1}{2} \times 3\frac{3}{4}$ ins. ; Instrument only, $12\frac{1}{2} \times 6\frac{1}{2} \times 6\frac{1}{2}$ ins.	On application

### TABLE PATTERN



**K 8387/90**

*These instruments can be supplied in various colours ; and if required for use in tropical climates in special finish.*

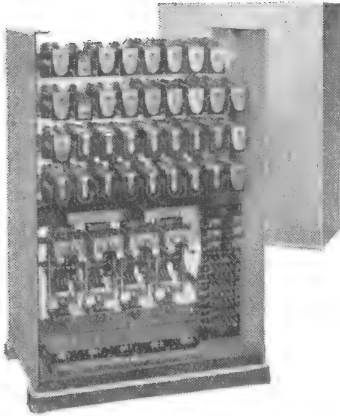
*NOTE : When ordering spare parts, the Catalogue Number of the instrument for which they are required should be stated.*

Cat. No.	Description.	Price each.
<b>K 8387</b>	Table pattern automatic telephone of the latest design, comprising black bakelite hand combination without key in handle, fitted with improved type of inset transmitter, which can easily be removed if necessary, also superior quality receiver, polarised call bell wound to 1,000 ohms resistance, condenser, automatic switch cradle and P.O. dial, flexible cord and wall terminal strip. Case of single black bakelite moulding with finger plate of stainless steel . . . . . Weight, 6 lbs. Dimensions, $9\frac{1}{4} \times 5\frac{1}{2} \times 6\frac{1}{2}$ ins.	On application
<b>K 8388</b>	Similar to <b>K 8387</b> , but arranged for wall mounting, without flexible cord and terminal strip, but with black enamelled metal bracket . . . Weight, 6 lbs. Dimensions, $9\frac{1}{4} \times 5\frac{1}{2} \times 6\frac{1}{2}$ ins.	
<b>K 8389</b>	Table pattern telephone, similar to <b>K 8387</b> , but fitted with D.C. ringer in lieu of A.C. ringer Weight, 6 lbs. Dimensions, $9\frac{1}{4} \times 5\frac{1}{2} \times 6\frac{1}{2}$ ins.	
<b>K 8390</b>	Similar to <b>K 8389</b> , but arranged for wall mounting as <b>K 8388</b> . . . . . Weight, 6 lbs. Dimensions, $9\frac{1}{4} \times 5\frac{1}{2} \times 6\frac{1}{2}$ ins.	

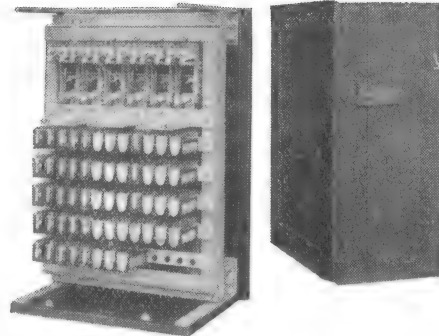


## PRIVATE AUTOMATIC EXCHANGES

D.C. RINGING 12-VOLT UNISELECTOR TYPE



K 8393



K 8394

**K 8393.** This unit has an ultimate capacity for 15 lines, but can be equipped initially for as few as 5 lines. It is arranged for fixing on a shelf or table. The whole switchboard mechanism is mounted on a steel framework fixed to a substantial hardwood base, and is suitably protected against dust or damage by a cover of pressed steel.

**K 8394.** This unit has an ultimate capacity for 25 lines, but can be equipped with as few as 10 lines. It can be fixed on a shelf or table, but is particularly adapted for wall mounting, the backboard being provided with battens for this purpose. The apparatus is mounted on a metal framework hinged to the backboard so that it can be swung forward to facilitate inspection of the wiring, etc. It is suitably protected against dust or damage by a wood cover.

Cat. No.	No. of Lines.	Weight.	Dimensions.	Price.
		lbs.	ins.	
K 8393	{ 5	48	18½ × 12¾ × 8½	} On application
	{ 10	52		
	{ 15	58		
K 8394	{ 10	76	23½ × 16 × 10½	
	{ 15	79		
	{ 20	92		
	{ 25	94		

Instruments suitable for use with these boards are shown on page 840, Catalogue Numbers K 8389, K 8390. A triple conductor is necessary to connect the instruments to the switchboard.

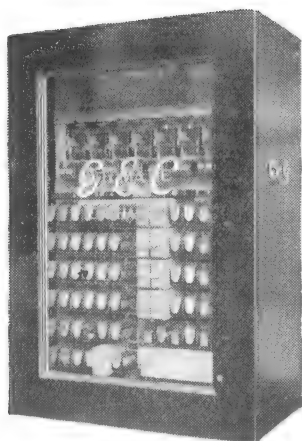
When sending inquiries, full particulars should be given of the public electric mains supply to enable full information to be given for suitable battery and control panel. All apparatus can be supplied suitable for use in tropical climates if required.

*NOTE : When ordering spare parts, the Catalogue Number of the instrument for which they are required should be stated.*

# S.E.C.

## PRIVATE AUTOMATIC EXCHANGES

A.C. RINGING, 26-VOLT UNISELECTOR TYPE



**K 8395**

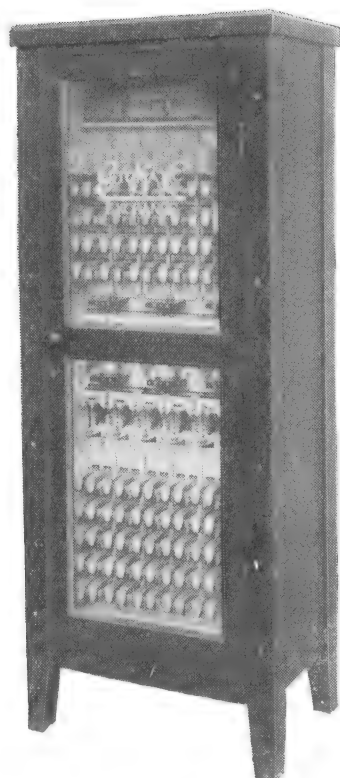
**K 8395.** A 25-line unit, in all respects similar to the **K 8394** described on page 841, except that it is arranged to work off 26 volts and for A.C. ringing. It requires twin conductor only to connect an instrument to the switchboard.

Cat. No.	No. of Lines.	Weight.	Dimensions.	Price.
		lbs.	ins.	
<b>K 8395</b>	10	119	$30\frac{1}{2} \times 21\frac{1}{4} \times 11\frac{1}{4}$	On application
	15	123		
	20	136		
	25	139		

**K 8396.** This unit has an ultimate capacity of 50 lines, but can be equipped with as few as 25 lines to begin with. The switching equipment is mounted on a steel framework, enclosed in a floor pattern cabinet of polished hardwood. The glazed panelled front of the cabinet is hinged, and fitted with a lock. There is a lift-out panel at the rear to give easy access to the wiring.

This unit is very compact, and can therefore be installed practically anywhere.

A twin conductor only is required to connect an instrument to the switchboard.



**K 8396**

Cat. No.	No. of Lines.	Weight.	Dimensions.	Price.
		lbs.	ins.	
<b>K 8396</b>	25	226	$62\frac{1}{2} \times 24\frac{1}{4} \times 16\frac{1}{4}$	On application
	30	241		
	40	261		
	50	268		

Instruments suitable for use with these boards are shown on page 840, Catalogue Numbers **K 8384/85/87/88.**

All enquiries concerning this equipment should be accompanied with full particulars of the public electricity mains supply, so that full information may be given regarding a suitable battery and control panel.

Complete equipment can be supplied suitable for use in tropical climates if required

## PRIVATE AUTOMATIC EXCHANGES

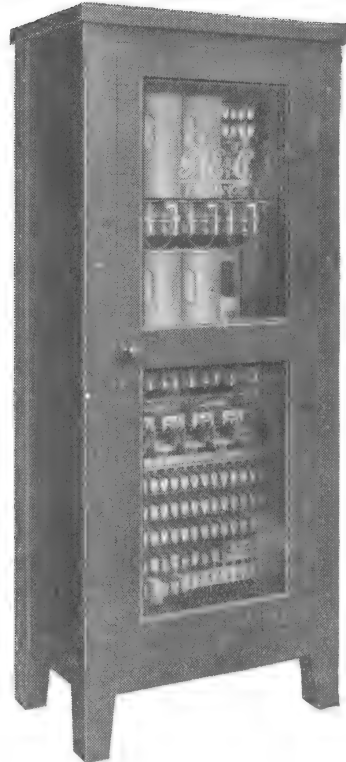
A.C. RINGING. 26-VOLT TWO MOTION SELECTOR TYPE

This unit is similar in appearance to the switchboard K **8396** illustrated on page 842, but whereas the ultimate capacity of the latter is limited to that of the individual unit, the K **8397**, beginning with as few as 25 lines, is capable of practically indefinite extension by the addition of further units.

A 100-line switchboard comprises two 50-line units of the type illustrated, suitably interconnected.

When more than 100 lines are connected, Group Selector equipment is provided, in addition to the necessary line units. Being mounted in compact units of convenient size, the whole equipment can be arranged to occupy minimum floor space. It is mounted on a steel framework and enclosed in a floor pattern cabinet of well-seasoned polished hardwood. The glass-panelled front of the cabinet is hinged and fitted with a lock. A lift-out panel is fitted at the rear so as to give easy access to the wiring, etc.

A twin conductor only is required to connect an instrument to the switchboard.



K **8397**

Cat. No.	No. of Lines.	Weight.	Dimensions.	Price.
K <b>8397</b>	25	lbs. 378	ins.  73 × 30 $\frac{1}{2}$ × 20 $\frac{1}{2}$	On application
	30	403		
	40	420		
	50	442		

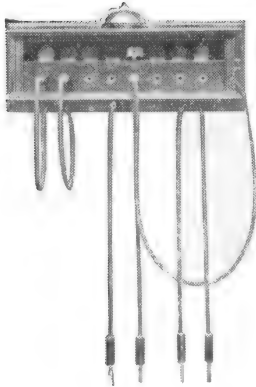
Instruments suitable for use with this switchboard are shown on page 840, Catalogue Numbers K **8384/5** and K **8387/8**.

All enquiries concerning this equipment should be accompanied with full particulars of the public electricity mains supply, so that full information may be given regarding a suitable battery and control panel.

Complete equipment can be supplied suitable for use in tropical climates if required.

## TELEPHONE SWITCHBOARDS

### WALL AND FLOOR TYPES, MAGNETO OR LOCAL BATTERY RINGING

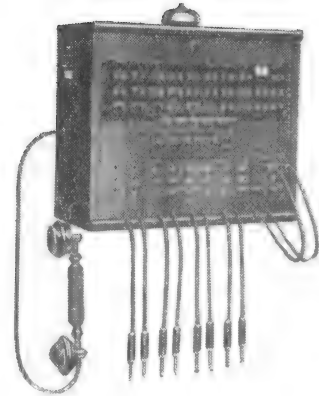


**K 8335**

These switchboards are supplied for use in Public Buildings, Hotels, Flats, etc.

All cabinet work is of well-seasoned walnut.

**K 8335.** Annunciator switchboard, without operator's instrument or combined ringing and listening keys attached, but equipped with line indicator **K 8400**, line jacks **K 8405**, through cords **K 8473**, operator's cord **K 8474**, double line plugs **K 8423**, and 3-inch circular bell and switch.



**K 8350**

**K 8350.** Wall pattern switchboard equipped with line drops **K 8400**, clearing drops **K 8401**, line jacks **K 8405**, double line cords **K 8474**, double line plugs **K 8423**, combined ringing and listening keys **K 8429**, ring back key **K 8433**, hand combination and 3-inch circular bell with switch.

**K 8360.** Floor pattern switchboard equipped with similar apparatus as **K 8350**, but with **K 8431** combined ringing and listening keys in place of **K 8429**, double line cord **K 8476** and **K 7700** operator's instrument.

Both these switchboards when supplied for magneto ringing are fitted with a **K 8701** generator.

For suitable instruments see pages 823 and 824 for Battery Ringing ; and pages 831 and 832 for Magneto Ringing.

Cat. No.	No. of Lines.	No. of Cord Circuits	Weight.	Dimensions.	Price. Battery Call	Price. Magneto Call
			lbs.	ins.	£	s. d.
<b>K 8335</b> Wall Pattern	2	1	3½	6½ × 7½ × 6	4	6 0
	3	1	3½	6½ × 8½ × 6	5	11 6
	4	1	4	6½ × 10½ × 6	6	16 6
	5	2	5½	6½ × 11½ × 6	8	9 0
	6	2	5½	6½ × 13 × 6	9	14 0
	8	2	6½	6½ × 15½ × 6	11	6 8
	10	3	9	6½ × 18½ × 6	12	15 8
	12	3	9½	8½ × 13 × 6	15	10 0
	15	3	12½	8½ × 15½ × 6	17	14 8
	18	4	13½	8½ × 17 × 6	20	1 0
	20	4	15	8½ × 18½ × 6	21	13 8
<b>K 8350</b> Wall Pattern	10	3	26½	15½ × 10½ × 9	27	15 0
	15	3	28½	15½ × 10½ × 9	31	0 0
	20	4	32	15½ × 10½ × 9	37	0 0
	25	5	39½	15½ × 17½ × 9	44	0 0
	30	5	41½	15½ × 17½ × 9	48	0 0
<b>K 8360</b> Floor Pattern	30	5	116	50 Line Equipment.	Prices on application	
	40	6	121	49x18x25½		
	50	7	125	100 Line Equipment.		
	60	7	150	58x18x25½		
	70	8	154			
	80	9	159			
	100	10	166			

These switchboards can be supplied suitable for tropical climates at an extra charge.

NOTE : When ordering spare parts, the Catalogue Number of the instrument for which they are required should be stated.

## TELEPHONE SWITCHBOARDS

### CENTRAL BATTERY, VISUAL AND LAMP SIGNAL TYPES

Suitable for Hotels, Flats and Public Buildings.  
Cabinet work of well-seasoned walnut.

**K 8364.** Wall pattern central battery switchboard, comprising self-restoring visual signal line indicator (**K 8404**) which acts for both calling and clearing signals, line jacks (**K 8405**), double line plugs (**K 8408**), combined ringing and listening keys, double line cords (**K 8457**), 4-bar generator (**K 8701**), 3-inch circular bell and switch, hand combination, etc. Voltage of battery 18 to 24 volts.

Cat. No.	No. of Lines.	No. of Cord Circuits.	Weight.	Dimensions.	Price.
			lbs.	ins.	
<b>K 8364</b>	10	3	40½	21 × 14½ × 12	On application
	15	3	42½		
	20	4	45½		
	25	5	48		
	30	5	49½		

Floor pattern lamp signalling central battery switchboards, without and with line relays.

**K 8369.** Without line relays—recommended for telephone circuits where the total line resistance of two wires forming one circuit does not exceed 15 ohms. Comprises 10-way lamp socket mounting. Double line plugs (**K 8408**), double line cords (**K 8476**), line jack mounting in strips of 10, relay bell and switch, combined ringing and listening keys (**K 8436**), 4-bar generator (**K 8701**), and **K 7702** operator's instrument.

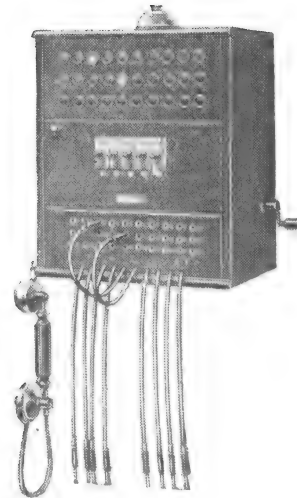
**K 8370.** With line relays suitable for telephone circuits up to 700 ohms resistance for the two wires. With exception of the lamp, all other parts are similar to the **K 8369**.

Voltage of battery for both boards is 24 volts.

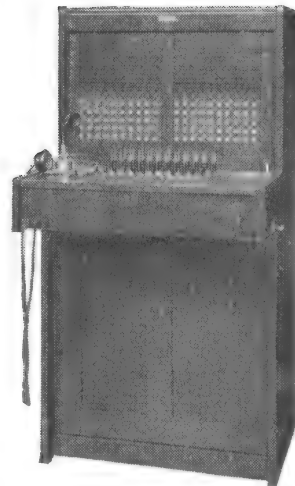
No. of Lines.	No. of Cord Circuits.	K 8369 (Without Relays.) Weight.	K 8370 (With Relays.) Weight.	Dimensions.	Price.
		lbs.	lbs.	ins.	
30	5	147	164	60-Line Frame. 48½ × 20 × 29½	On application
40	6	152	175		
50	7	157	186		
60	7	158	193	120-Line Frame. 48½ × 26½ × 29½	
60	7	184	212		
80	8	190	227		
100	10	200	247	160-Line Frame. 52½ × 26½ × 29½	
120	12	210	266		
120	12	218	274		
140	14	228	294	200-Line Frame. 52½ × 26½ × 29½	
160	15	234	308		
180	16	243	326		
200	17	252	342		

These switchboards can be supplied suitable for use in tropical climates. For suitable instruments see page 833.

**NOTE :** When ordering spare parts, the Catalogue Number of the switchboard for which they are required should be stated.



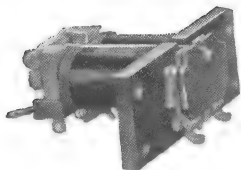
**K 8364**  
Wall Pattern.



**K 8369/70**  
Floor Pattern.

## SWITCHBOARD ACCESSORIES

Parts for switchboards on pages 844 and 845.



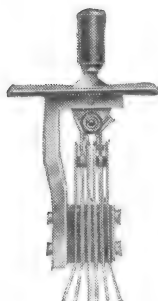
K 8400



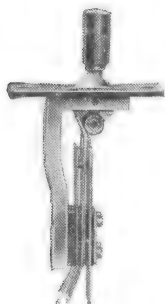
K 8405



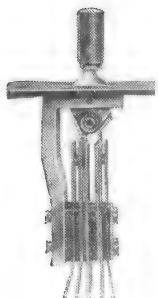
K 8408



K 8429/31



K 8433



K 8436

Cat. No.	Description.	Price each.	
		s.	d.
K 8400	Line drop indicator wound to 100 ohms as fitted to switchboards K 8335/50/60 .. .. .	10	0
	Weight, 4½ oz.		
	Dimensions, 2½ × 2½ × 1 ins.		
K 8401	Tubular line drop wound to 120 ohms or 500 ohms as fitted as ring-off signals to switchboards K 8350/60 .. .. .	13	0
	Weight, 7 oz.		
	Dimensions, 3½ × 2½ × 1 ins.		
	As K 8401 but wound for 1,000 ohms	15	0
	Weight, 7 oz.		
	Dimensions, 3½ × 2½ × 1 ins.		
K 8404	Visual signal indicator as fitted to switchboard K 8364 .. .. .	15	0
	Weight, 5 oz.		
	Dimensions, 4½ × 1½ ins.		
K 8405	Five-point line jack as fitted to switchboards K 8335/50/8360 .. .. .	2	6
	Weight, 1 oz.		
	Dimensions, 3½ × 1½ ins.		
K 8408	Switchboard plug as fitted to switchboards K 8364/69/70.. .. .	6	0
	Weight, 1 oz.		
	Dimensions, 3¼ × ⅞ ins.		
K 8423	Switchboard plug as fitted to switchboards K 8335/50/8360 .. .. .	6	0
	Weight, 1 oz.		
	Dimensions, 3⅞ × ⅞ ins.		
K 8429	Ring and listening key as fitted to switchboard K 8350 .. .. .	10	6
	Weight, 4½ oz.		
	Dimensions, 2½ × 1 ⅞ × 4½ ins.		
K 8431	Ring and listening key as fitted to switchboard K 8360 .. .. .	12	0
	Weight, 4½ oz.		
	Dimensions, 2½ × 1 ⅞ × 4½ ins.		
K 8433	Ring back key as fitted to K 8350/60 .. .. .	7	6
	Weight, 4 oz.		
	Dimensions, 2½ × 1 ⅞ × 4½ ins.		
K 8436	Ring and listening key as fitted to switchboards K 8369/70 .. .. .	9	6
	Weight, 4½ oz.		
	Dimensions, 2½ × 1 ⅞ × 4½ ins.		

When ordering spare parts for switchboards state if ordinary or tropical finish is required.

## RECEIVER ACCESSORIES



K 7615



K 7630

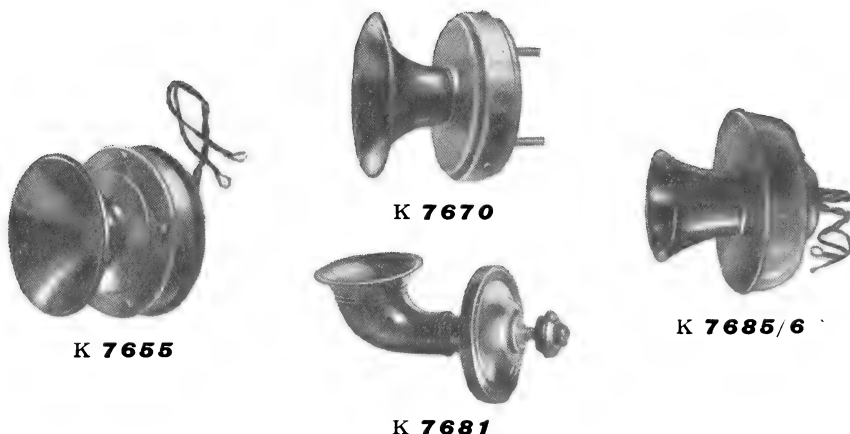


K 7640

Cat. No.	Description.	Price each.		
		£	s.	d.
K 7615	Double pole " Bell " receiver (G.P.O. pattern) wound to 120 ohms. Case of pressed brass coated with ebonite. Fitted complete with earpiece and K 8460 flexible cord, as fitted to instruments Cat. Nos. K 7842/3 and K 8025/30, 55/56/57 .. .. . Weight, 14 oz. Dimensions, $5\frac{1}{2} \times 2\frac{3}{8} \times 2\frac{3}{8}$ ins.	18	9	
K 7617	" Bell " pattern electro-magnetic receiver, complete with cord K 8460, for use with central battery telephones K 8146 .. .. . Weight, 14 oz. Dimensions, $5\frac{1}{2} \times 2\frac{3}{8} \times 2\frac{3}{8}$ ins.	18	9	
K 7630	Double pole " Watch " receiver wound to 30 ohms. Case of brass, oxidised finish. Fitted complete with earpiece and K 8465 flexible cord, as fitted to instruments Cat. Nos. K 7746/50, K 7820, and K 8005 .. .. . Weight, 6 ozs. Dimensions, $2\frac{1}{2} \times 2\frac{1}{2} \times 1$ ins.	10	6	
	Spare parts for above receivers :—			
	Earpieces .. .. .	1	0	
	Diaphragms, $2\frac{1}{8}$ ins. diameter .. .. .		4	
K 7631	Electro-magnetic " Watch " receiver, for use with K 7867 and K 7952 intercommunication telephones. Fitted complete with earpiece and K 8465 flexible cord .. .. . Weight, 8 ozs. Dimensions, $2\frac{3}{4} \times 2\frac{1}{2} \times 2\frac{1}{2}$ ins.	12	0	
	Spare parts for above receivers :—			
	Earpieces .. .. .	1	0	
	Diaphragms, $2\frac{1}{8}$ ins. diameter .. .. .		4	
K 7633	Double pole " Watch " receiver, similar to K 7630, but wound to 120 ohms resistance .. .. . Weight, 8 ozs. Dimensions, $2\frac{1}{2} \times 2\frac{1}{2} \times 1$ ins.	12	6	
K 7640	Double pole single Headgear receiver with steel wire head band and adjustable soft leather pad. Fitted complete with two-conductor cord .. .. . Weight, $6\frac{1}{2}$ ozs.	1	9	0
	Spare parts for above receivers :—			
	Earpieces .. .. .	1	0	
	Diaphragms, $2\frac{1}{8}$ ins. diameter .. .. .		4	
	Spare parts for bakelite hand-sets :—			
	Brown earpiece, K 7641 .. .. .	1	0	
	Black earpiece, K 7642 .. .. .	1	0	
	Diaphragms, $2\frac{1}{8}$ ins. diameter .. .. .		4	

NOTE : When ordering spare parts, the Catalogue Number of the instrument or receiver for which they are required should be stated.

## TRANSMITTER ACCESSORIES

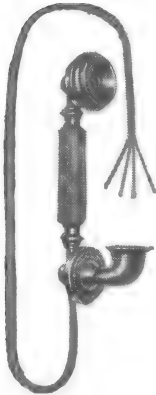


Cat. No.	Description.	Price each.	
K 7655	"Hunningscone-Deckert" carbon granule transmitter. Case of brass, oxidised finish with composition back and mouthpiece and wire gauze to protect the carbon diaphragm; and two-conductor flexible cord .. .. . Weight, 6 oz. Dimensions, $2\frac{1}{2} \times 2\frac{1}{2} \times 2\frac{1}{2}$ ins.	s.	d.
		12	0
	Spare parts for above transmitter :— Carbon diaphragms with wool washers, $2\frac{1}{2}$ ins. diam.	1	0
	Carbon cones .. .. .	1	0
	Mouthpieces .. .. .	1	0
	Carbon granules, per oz. .. .. .	4	6
K 7670	Carbon granule type transmitter. Suitable for use with battery call and intercommunication telephone instruments. Case of brass, oxidised finish. Fitted with brass mouthpiece and two terminals at back Weight, 4 oz. Dimensions, $2\frac{1}{2} \times 2\frac{1}{2} \times 2\frac{1}{2}$ ins.	10	0
	Spare parts for above transmitter :— Carbon diaphragms, $2\frac{1}{2}$ ins. diameter .. .. .	1	0
	Carbon cup .. .. .	1	0
	Carbon granules, per oz. .. .. .	4	6
K 7681	MAGNET transmitter with mouthpiece for hand combinations K 7707, K 7709, K 7710, K 7713 .. .. . Weight, $4\frac{1}{2}$ oz. Dimensions, $2\frac{1}{2} \times 4\frac{1}{2}$ ins.	12	0
K 7682	Transmitter inset for bakelite handsets .. .. . Weight, $2\frac{1}{2}$ oz. Dimensions, $2\frac{1}{2} \times 1$ ins.	9	0
K 7685	Solid back type transmitter with electrodes and carbon granules in hermetically sealed capsule. Totally unaffected by climatic conditions. Case of brass, black finish, does not form part of electrical circuit; for magneto call instruments .. .. . Weight, 11 oz. Dimensions, $2\frac{1}{2} \times 3 \times 3$ ins.	19	0
K 7686	Similar to K 7685, but arranged for central battery instruments .. .. . Weight, 11 oz. Dimensions, $2\frac{1}{2} \times 3 \times 3$ ins.	19	0
	Spare parts for K 7685/6 transmitters :— Mouthpieces .. .. .	1	3
	Carbon granules, per oz. .. .. .	4	6

NOTE : When ordering spare parts, the Catalogue Number of the instrument for which they are required should be stated.



## ACCESSORIES FOR HAND COMBINATIONS AND OPERATORS' SETS



K 7707/10



K 7714/15/16  
With Cord.

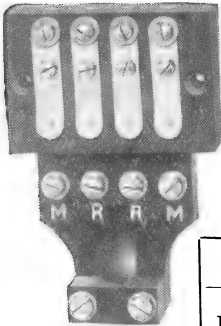


K 7700/2

Cat. No.	Description.	Price each		
		£	s.	d.
K 7700	Operator's switchboard instrument for local battery. Suitable for switchboards K 8350/60 .. .. . Weight, 20 oz. Dimensions, 7×7×5½ ins.	4	7	0
K 7702	Operator's switchboard instrument for central battery. Suitable for switchboards K 8364/69/70 .. .. . Weight, 20 oz. Dimensions, 7×7×5½ ins.	4	7	0
K 7707	Handset complete with MAGNET transmitter K 7681, with mouthpiece K 7726, double pole receiver, ebonite handle, and four-way cord K 8470, with key .. .. . Weight, 17 oz. Dimensions, 10×2½×2½ ins.	2	2	0
	The same, without key .. .. . Weight, 17 oz. Dimensions, 10×2½×2½ ins.	1	19	0
K 7709	Handset similar to K 7707, but with Morse or double contact key, and K 8470A cord. For use with the earlier type of instruments K 7845/50 .. .. . Weight, 17 oz. Dimensions, 10×2½×2½ ins.	2	5	0
K 7710	Handset similar to K 7707, without key, and fitted with electro-magnetic receiver and two conductor cords for use with the earlier type of instruments K 7869, K 7887, K 7962 and K 7966 .. .. . Weight, 17 oz. Dimensions, 10×2½×2½ ins.	2	2	0
K 7711	Handset similar to K 7710, but fitted with a solid back transmitter for use with the earlier type of instruments K 7906 and K 7912 .. .. . Weight, 19 oz. Dimensions, 10×2½×2½ ins.	2	5	0
K 7713	Handset similar to K 7709, but fitted with a three conductor cord for use with instruments K 7790, K 7796 and K 7864 .. .. . Weight, 17 oz. Dimensions, 10×2½×2½ ins.	2	0	0
K 7714	Brown bakelite handset for use with instruments K 7847/51 .. .. . Weight, 17 oz. Dimensions, 9×3×2½ ins.	1	12	6
K 7715	Brown bakelite handset for use with instruments K 7888 and K 7967 .. .. . Weight, 17 oz. Dimensions, 9×3×2½ ins.	1	12	6
K 7716	Black bakelite handset for use with instruments K 7907/13 .. .. . Weight, 17 oz. Dimensions, 9×3×2½ ins.	1	12	6

NOTE : When ordering spare parts, the Catalogue Number of the instrument for which they are required should be stated.

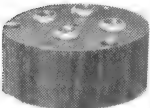
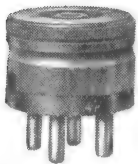
## SPARE PARTS AND ACCESSORIES



K 7725



K 7781



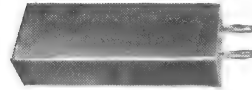
K 8550



K 7784/6



K 7726



K 8557/9

Cat. No.	Description.	Price each.	
		s.	d.
K 7725	Four-way plug and jack. Spring and pins mounted on ebonite blocks with cheese-headed screws. All metal parts nickel plated .. .. . Weight, 3 oz. Dimensions, $3 \times 2\frac{1}{4} \times 2\frac{1}{4}$ ins.	11	0
	Jack only .. .. .	5	0
	Weight, $1\frac{1}{2}$ oz.		
	Plug only .. .. .	6	0
	Weight $1\frac{1}{2}$ oz.		
K 7726	Celluloid mouthpiece for K 7707/9 ..	2	0
	Weight, $\frac{3}{4}$ oz.		
	Dimensions, $2\frac{1}{2} \times 1\frac{1}{2} \times 1\frac{1}{2}$ ins.		
K 7728	Induction coil. Primary 1 ohm, secondary 25 ohms .. .. .	4	4
	Weight, 4 oz.		
	Dimensions, $2\frac{1}{2} \times 1 \times 1$ ins.		
K 7781	Black bakelite push with hook and 2-way socket for use with K 7730 and K 7766 .. .. .	3	9
	Weight, 3 oz.		
	Dimensions, $3\frac{1}{2} \times 2\frac{1}{2} \times 1\frac{1}{2}$ ins.		
K 7784	Two-pin plug .. .. .	1	9
	Weight, 1 oz.		
	Dimensions, $1\frac{1}{2} \times 1 \times \frac{3}{4}$ ins.		
K 7786	Two-way socket .. .. .	1	9
	Weight, $\frac{3}{4}$ oz.		
	Dimensions, $1\frac{1}{4} \times \frac{7}{8} \times \frac{1}{2}$ ins.		
K 8550	Four-way telephone plug; hardwood base with four brass plug sockets for connecting line and battery wires, and plug for connecting to flexible cord of telephone .. .. .	12	6
	Weight, 6 oz.		
	Dimensions, $2\frac{1}{2} \times 2\frac{3}{8}$ ins.		
K 8557	2 Microfarad condenser, coated paper type, in enamelled tin case with cover soldered on .. .. .	5	6
	Weight, 6 oz.		
	Dimensions, $3\frac{3}{8} \times 1\frac{1}{8} \times 1$ ins.		
K 8558	1 Microfarad condenser, as above ..	4	6
	Weight, 3 oz.		
	Dimensions, $3\frac{3}{8} \times 1\frac{1}{8} \times \frac{1}{2}$ ins.		
K 8559	$\frac{1}{2}$ Microfarad condenser, as above ..	4	6
	Weight, $2\frac{1}{2}$ oz.		
	Dimensions, $3\frac{3}{8} \times 1\frac{1}{8} \times \frac{1}{2}$ ins.		

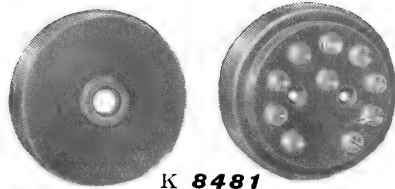
NOTE : When ordering spare parts, the Catalogue Number of the instrument for which they are required should be stated.

## MULTIPLE ROSETTES AND JUNCTION BOXES

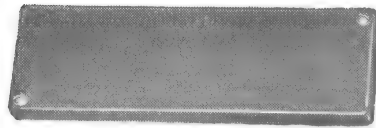
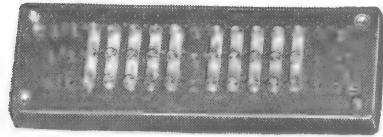
FOR USE WITH INTERCOMMUNICATION TELEPHONES

Bakelite rosette with screw-on cover. Suitable for use with intercommunication telephones, and multiple table bell pushes. Not suitable as a junction box.

Cat. No.	Weight.	Dimensions	No. of terminals.	Price. each
	oz.	ins.		s. d.
K 8481	4	$2\frac{1}{2} \times 1\frac{1}{4}$	3	3 3
			4	3 6
			5	3 9
			6	4 0
			8	4 6
	8	$4\frac{1}{2} \times 1\frac{3}{8}$	10	5 0
			15	9 6
			20	10 9
			25	12 0



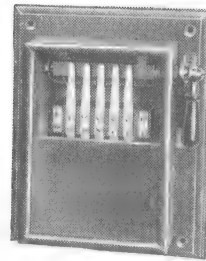
K 8481



K 8491

Bakelite Rectangular Junction Box. Base fitted with brass connecting strips, each strip having three cheese-headed screws and washers. Specially recommended for use with intercommunication telephone systems.

Cat. No.	Weight.	Dimensions.	No. of terminals.	Price. each
	lbs. oz.	ins.		£ s. d.
K 8491	- 13	$8 \times 2\frac{1}{2} \times 1\frac{1}{4}$	5	7 6
	- 14	$8 \times 2\frac{1}{2} \times 1\frac{1}{4}$	10	10 9
	1 0	$8 \times 2\frac{1}{2} \times 1\frac{1}{4}$	15	15 0
	1 7	$12\frac{1}{4} \times 2\frac{1}{2} \times 1\frac{1}{4}$	20	18 6
	1 8	$12\frac{1}{4} \times 2\frac{1}{2} \times 1\frac{1}{4}$	25	1 2 0



## SWITCHES

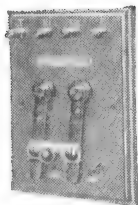
CHANGE-OVER MULTIPLE TYPE

K 8545

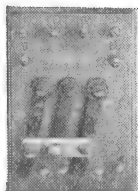
Cat. No.	Description.	Price.
K 8545	Change-over multiple switch for use where required to change over a number of lines, as, for example, where a number of telephone circuits are switched from a day to a night switchboard. Polished walnut case.	£ s. d.
	Weight: lbs. oz.	
	2 8	
	3 2	
	5 4	
	4 10	
	8 2	
	7 0	
	8 2	
	10 4	
	Dimensions ins.	
	$9 \times 7\frac{1}{4} \times 3\frac{1}{4}$	
	$11 \times 7\frac{1}{4} \times 3\frac{1}{4}$	
	$13\frac{1}{4} \times 9\frac{1}{2} \times 3\frac{1}{4}$	
	$11 \times 9\frac{1}{2} \times 3\frac{1}{4}$	
	$18\frac{1}{2} \times 9\frac{1}{2} \times 3\frac{1}{4}$	
	$13\frac{1}{4} \times 11 \times 3\frac{1}{4}$	
	$16 \times 11 \times 3\frac{1}{4}$	
	$18\frac{1}{2} \times 10\frac{1}{2} \times 3\frac{1}{4}$	
	No. of Single Ways.	
	5	7 7 0
	10	8 8 0
	15	11 11 0
	20	13 0 0
	25	15 0 0
	30	17 0 0
	40	18 18 0
	50	21 10 0

For Extension, Circular and Selector Type Switches see next page

## SWITCHES



K 8500



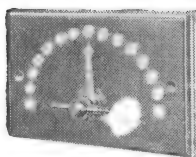
K 8510



K 8530



K 8525



K 8515

### EXTENSION TYPE

Cat. No.	Description.	Price each.
		£ s. d.
K 8500	Extension switch for single line. Two positions—A to ring and speak both ways to B and C. Polished walnut base. Metal parts oxidised. Weight, 7 oz. Dimensions, $6 \times 4\frac{1}{2} \times 1\frac{1}{2}$ ins.	15 3
K 8501	Double pole change - over switch similar to K 8500 .. .. Weight, $7\frac{1}{2}$ oz. Dimensions, $6 \times 4\frac{1}{2} \times 1\frac{1}{2}$ ins.	17 8
K 8510	Extension switch arranged for single line. Three positions—A to ring and speak both ways to B and C, and through position to connect B and C together. Polished walnut base. Metal parts oxidised .. Weight, 12 oz. Dimensions, $6 \times 4\frac{1}{2} \times 1\frac{1}{2}$ ins.	18 6
K 8530	Extension switch arranged for double lines. Three positions—A to ring and speak both ways to B and C, and through position to connect B and C together. Polished walnut base. Metal parts oxidised .. Weight, 20 oz. Dimensions, $6\frac{1}{2} \times 4\frac{1}{2} \times 2\frac{1}{2}$	1 15 0

### CIRCULAR TYPE

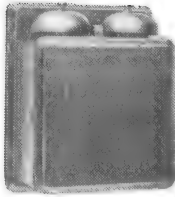
Cat. No.	Description.	Price each.
		s. d.
K 8525	Circular switch with two single ways. Polished walnut base. All metal parts oxidised .. .. Weight, 4 oz. Dimensions, $3\frac{1}{2} \times 1\frac{1}{2}$ ins.	6 0

### SELECTOR TYPE

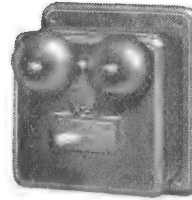
Cat. No.	Description.	Price each.														
		£ s. d.														
K 8515	Selector switch, as used on instruments K 7867/88, for connecting ordinary Battery Call telephones to intercommunication sets. Polished walnut base. Metal parts oxidised.															
	<table><tr><th>Weight oz.</th><th>Dimensions ins.</th><th>No. of Ways.</th><td></td></tr><tr><td>5</td><td rowspan="3">5½ × 4 × 2</td><td>5 ..</td><td>12 9</td></tr><tr><td>10</td><td>10 ..</td><td>17 0</td></tr><tr><td>15</td><td>15 ..</td><td>1 8 9</td></tr></table>	Weight oz.	Dimensions ins.	No. of Ways.		5	5½ × 4 × 2	5 ..	12 9	10	10 ..	17 0	15	15 ..	1 8 9	
Weight oz.	Dimensions ins.	No. of Ways.														
5	5½ × 4 × 2	5 ..	12 9													
10		10 ..	17 0													
15		15 ..	1 8 9													

# EXTENSION BELLS

## MAGNETO AND BATTERY TYPES

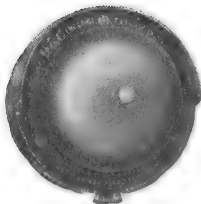


**K 8300**

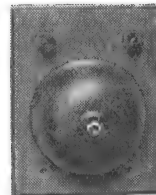


**K 8304**

Cat. No.	Description.	Price each.
		£ s. d.
<b>K 8300</b>	Magneto extension bell, 1,000 ohms resistance, with two 2½-in. round gongs .. .. Weight, 2 lbs. 8 oz. Dimensions, 8½ × 6½ × 3½ ins.	<b>1 2 6</b>
<b>K 8304</b>	Magneto extension bell, 1,000 ohms resistance, with two 2½-in. sheep gongs .. .. Weight, 2 lbs. 11 oz. Dimensions, 9½ × 6½ × 3½ ins. The above are fitted with series-parallel terminals, so that the resistance may be altered to 250 ohms, if required.	<b>1 10 0</b>



**K 8312**



**K 8313**

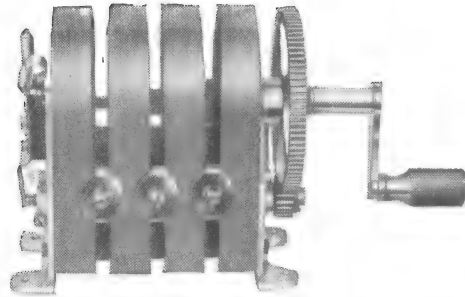
Cat. No.	Description.	Price each.
		£ s. d.
<b>K 8312</b>	Iron-cased and weatherproof magneto extension bell, 1,000 ohms resistance, fitted with 6-in. gong and safety condenser .. .. Weight, 13 lbs. 4 oz. Dimensions, 8 × 5½ ins.	<b>2 10 0</b>
<b>K 8313</b>	Circular battery call extension bell, fitted with 3-in. gong and mounted on polished walnut base; wound to 25 ohms resistance .. .. Weight, 13 oz. Dimensions, 5 × 4 × 2½ ins.	<b>13 9</b>

# S.E.C.

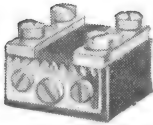
## TELEPHONE RELAYS, EARTH CLIPS AND MAGNETO GENERATORS



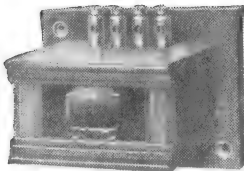
K 8563



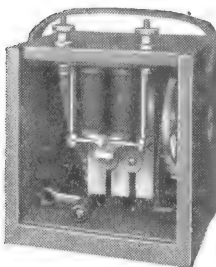
K 8700



K 8562



K 8655

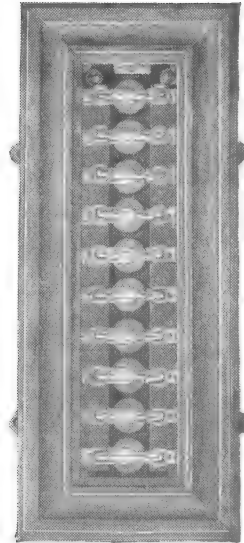


K 8564

Cat. No.	Description.	Price each.		
K 8562	Double line window terminal block with lightning arrester .. Weight, 1½ oz. Dimensions, 1½ × 1 × 7⁄8 ins.	£	s.	d.
			2	6
K 8563	Earth clip for making efficient connection to water pipes .. Weight, 1 lb. Dimensions, 2½ × 1½ × 5⁄8 ins.		1	6
K 8564	Magneto generator testing set, comprising 3-magnet generator, buzzer wound to 1,000 ohms, which will operate through 25,000 ohms ; polished walnut cabinet .. .. . Weight, 9 lbs. 15 oz. Dimensions, 6½ × 6 × 6½ ins.	5	2	0
K 8655	Relay, 100 ohms, comprising K 8400 line drop with local bell contacts, for use with magneto call telephones where it is desired to fit a loud bell .. Weight, 12 oz. Dimensions, 4½ × 3½ × 3½ ins.	1	2	0
K 8690	Two-magnet generator as fitted to instrument K 8005 .. .. . Weight, 2 lbs. Dimensions, 3½ × 3 ins.	1	10	0
K 8695	Three-magnet generator as fitted to instruments K 8025, K 8035 and K 8055 .. Weight, 3 lbs. 14 oz. Dimensions, 4½ × 3½ ins.	2	2	3
K 8700	Four-magnet generator as fitted to instruments K 8030 and K 8056 .. .. . Weight, 4 lbs. 12 oz. Dimensions, 5½ × 4½ ins.	2	14	6
K 8701	Four-magnet generator as fitted to all switchboards K 8350 to K 8370 .. .. . Weight, 4 lbs. 14 oz. Dimensions, 5½ × 4½ ins.	2	14	6
K 8702	Five-magnet generator as fitted to instrument K 8057 .. Weight, 5 lbs. 6 oz. Dimensions, 5½ × 3½ ins.	2	18	0

## LIGHTNING ARRESTERS AND FUSE BOARDS

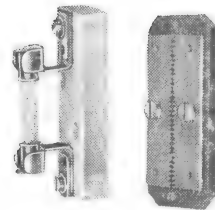
Cat. No	Description.	Price each.		
		£	s.	d.
K 8560	Lightning arrester and fuse board, equipped with glass fuses held by copper clips, which also act as line connections. Circular carbon block lightning arresters separated from earth plate by a mica disc. Whole mounted on iron frame enclosed in asbestos-lined teak case with glass front. For 10 single or 5 double lines .. Weight, 5 lbs. Dimensions, $12\frac{3}{4} \times 5\frac{1}{2} \times 3\frac{1}{2}$ ins. For 20 single or 10 double lines .. Weight, 9 lbs. 8 oz. Dimensions, $12\frac{3}{4} \times 9\frac{1}{2} \times 3\frac{1}{2}$ ins. For 30 single or 15 double lines .. Weight, 14 lbs. Dimensions, $12\frac{7}{8} \times 13 \times 3\frac{1}{2}$ ins. For 50 single or 25 double lines .. Weight, 22 lbs. Dimensions, $20\frac{1}{2} \times 12\frac{3}{4} \times 3\frac{1}{2}$ ins. For 100 single or 50 double lines .. Weight, 27 lbs. 8 oz. Dimensions, $24\frac{1}{2} \times 20\frac{1}{2} \times 3\frac{1}{2}$ ins.			
		3	10	0
		6	5	0
		9	5	0
		12	0	0
		24	0	0
K 8565	Single unit, as above, in case .. Weight 7 oz. Dimensions, $4\frac{1}{2} \times 2\frac{5}{8} \times 2\frac{3}{8}$ ins.	10	6	
K 8575	Double-line unit, as above, in case Weight, 10 oz. Dimensions, $4\frac{1}{2} \times 3\frac{5}{8} \times 2\frac{3}{8}$ ins.	12	9	
K 8570	Porcelain base with clips and fuse Weight, $\frac{3}{4}$ oz. Dimensions, $2\frac{7}{8} \times \frac{13}{8} \times 1\frac{1}{2}$ ins.	2	9	
K 8571	Spare fuses for K 8560 and K 8570 .. .. .	9		
	Dimensions, $1\frac{5}{8} \times \frac{1}{2}$ ins.			
K 8581	Single-line arrester, brass plates on ebonite base .. .. . Weight, $\frac{3}{4}$ oz. Dimensions, $2\frac{5}{8} \times 1\frac{1}{8} \times \frac{5}{8}$ ins.	3	0	
K 8582	Double-line arrester as above .. Weight, 1 oz. Dimensions, $2\frac{5}{8} \times 1\frac{1}{8} \times \frac{5}{8}$ ins.	4	3	
K 8590	Combined tubular fuse, heat coils and carbon lightning arresters for double lines, mounted on porcelain base with composition cover. To protect lines against high and low currents .. .. Weight 13 oz. Dimensions, $4\frac{1}{2} \times 3\frac{1}{8} \times 2\frac{3}{4}$ ins.	12	0	
K 8591	Spare fuses for above .. .. .	10		
	Dimensions, $2\frac{1}{2} \times \frac{5}{8}$ ins.			
K 8592	Spare heat coils for above .. .. Dimensions $1\frac{1}{8} \times \frac{5}{8}$ ins.	1	3	
K 8593	Spare carbons and mica for above, per pair .. .. . Dimensions, $1\frac{1}{4} \times \frac{5}{8} \times \frac{1}{4}$ ins.	10		



K 8560



K 8565



K 8570

K 8581/2



K 8590

## TELEPHONE CORDS

FOR TRANSMITTERS, RECEIVERS, HAND  
MICROTELEPHONES AND SWITCHBOARDS

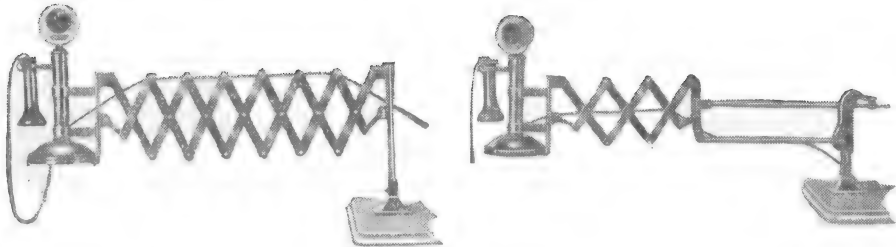
Cat. No.	Description.	Price each.	
		s.	d.
K 8460	" Bell " receiver cord, tinsel conductors, braided overall with loops at both ends. For K 7615/17 receivers. Length, 30 ins. . . . .	2	0
K 8465	" Watch " receiver cords, tinsel conductors, braided and twisted together with loops at both ends. For K 7630/31 receivers. Length, 25 ins. . . . .	2	3
K 8462	" Handset " cord, two tinsel conductors, braided circular overall. For brown bakelite handsets fitted to instruments K 7888 and K 7967. Length, 36 ins. . . . .	3	6
K 8466	" Handset " cord, two tinsel conductors, braided circular overall. For black bakelite handsets fitted to instruments K 7907 and K 7913. Length, 36 ins. . . . .	3	6
K 8467	" Handset " cord, three tinsel conductors, braided circular overall. For brown bakelite handsets fitted to instruments K 7847 and K 7851. Length, 36 ins. . . . .	3	9
K 8468	" Handset " cord, two tinsel conductors, braided overall. For instrument K 7766 (old list K 7765). Length, 60 ins. . . . .	4	0
K 8469	" Handset " cord, three tinsel conductors, braided overall. For instruments K 7790 and K 7796 (old list K 7795). Length, 38 ins. . . . .	4	0
K 8470	" Handset " cord, four tinsel conductors, braided overall. For earlier type instruments K 7707, K 7708. Length, 36 ins. . . . .	4	0
K 8470A	" Handset " cord, four tinsel conductors, braided overall. For earlier type instrument K 7709. Length, 36 ins. . . . .	4	0
K 8479	" Handset " cord, two tinsel conductors, braided overall. For earlier type instruments K 7869, K 7887, K 7962, K 7966, K 7906 and K 7912 (old list). Length, 36 ins. . . . .	4	0
K 8471	" Rosette " cord, four tinsel conductors, braided overall. For instrument K 7851 (old list K 7850). Length, 72 ins. . . . .	7	6
K 8473	Switchboard cord, two tinsel conductors for through connecting plugs, glazed cotton braided, with tag ends. For K 8335 annunciator board. Length, 30 ins. . . . .	4	0
K 8474	Switchboard cord, two tinsel conductors for operator's circuit, glazed cotton braided, with tags one end and loops at the other. For K 8335 annunciator board. Length, 30 ins. . . . .	4	0
K 8476/78	Switchboard cord, two tinsel conductors, tags one end, loops at the other, glazed cotton braided. Length, 54 ins. . . . .	6	0
<b>TELEPHONE FLEXIBLE CORDAGE.</b>		<b>Price per yard</b>	
K 8482	Flat Twin conductor braided black or brown overall . .	<b>6</b>	
K 8483	Circular Three conductor braided black or brown overall	<b>9</b>	
K 8484	Circular Four ditto	<b>1 0</b>	
K 8485	Circular Ten ditto	<b>2 0</b>	
K 8486	Circular Fifteen ditto	<b>2 6</b>	
K 8487	Circular Twenty ditto	<b>3 0</b>	
K 8488	Circular Twenty-five ditto	<b>3 6</b>	



## TELEPHONE EXTENDING ARMS

Sanctioned by G.P.O.

FOR USE IN CONNECTION WITH POST OFFICE TELEPHONE INSTRUMENTS



K 9443 (Open), fitted with KC Base.

K 9445 (Open), fitted with KC Base.

K 9443 MAGNET "Expanda" Telephone Arm with backward, forward and swivelling movement. Made in one size, having an extension of 36 inches, and readily fixed to the side or top of table or desk, or on wall or partition. Finished in oxidised copper. For bases see below.

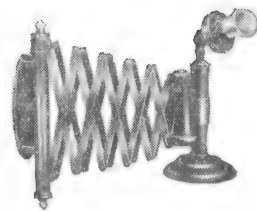
Cat. No.	Weight.	Dimensions (closed).	Price each.
K 9443	lbs. oz. 4 2	ins. 11 × 12	£ s. d. 1 1 0 including base.

K 9445 MAGNET Combination Telephone Extending Arm. Extends 30 inches, is self-balancing and has a motion giving adjustment for height as well as a backward and forward and swivelling motion. Can readily be fixed to side or top of table or desk, or on wall or partition. Finished in oxidised copper. For bases see below.

Cat. No.	Weight.	Dimensions (closed).	Price each.
K 9445	lbs. oz. 5 8	ins. 24 × 9½	£ s. d. 2 10 0 including base.

K 9446/7 MAGNET Telephone Extending Arm has extension range backward and forward of 42 inches. Well constructed and finished throughout in oxidised copper. Cat. No. K 9446 for use on desks or tables, and K 9447 for fixing to walls or partitions.

Cat. No.	Weight.	Dimensions. (closed).	Price each.
K 9446/7 Table or Wall Type.	lbs. ozs. 6 8	ins. 15 × 8½	£ s. d. 2 10 0

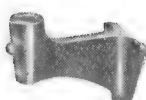


K 9447

### BASES



KA (Desk Type).  
Weight, 1 lb.  
Dimensions,  
6 × 3 ins.



KB (Wall Type).  
Weight, 1 lb.  
Dimensions,  
4 × 2½ × 3 ins.



KC (Desk Type).  
Weight, 11 oz.  
Dimensions,  
3 × 3 × 3 ins.



KD (Wall Type).  
Weight, 15 oz.  
Dimensions,  
4½ × 2½ × 1½ ins.

When ordering please state type of base required.

# S.E.C.

## FIRE ALARM CONTACTS AND PUSHES



**K 9216**



**K 9218**



**K 9225/6**



**K 9241**



**K 9230/1**

Cat. No.	Description.	Price each.
		£ s. d.
<b>K 9216</b>	Balance contact in cast iron case, gold silver contacts. Special test push provided for periodically testing circuit and contact. Front can be opened without fear of causing alarm bell and indicator to operate. Provided with interchangeable key. .. Dimensions, $5\frac{3}{4} \times 2\frac{1}{4}$ ins.	<b>1 1 0</b>
<b>K 9218</b>	Special design for high voltage mains supply, contained in cast iron case with hinged front. Contact made on breaking glass front or pressing the push .. Dimensions, $6\frac{1}{4} \times 2\frac{1}{4}$ ins.	<b>2 17 0</b>
<b>K 9225</b>	Brass barrel push, with glass front; alarm given by breaking glass front and pressing push .. 4 ins. diameter.	<b>1 0 0</b>
<b>K 9226</b>	Similar to K 9225 .. 3 ins. diameter.	<b>16 0</b>
<b>K 9230</b>	Cast iron case with hinged front, lock and key; contact made when glass is broken .. Dimensions, $9\frac{1}{2} \times 4$ ins.	<b>5 5 0</b>
<b>K 9231</b>	Similar to K 9230; contact made by pressing button .. Dimensions, $9\frac{1}{2} \times 4$ ins.	<b>5 0 0</b>
<b>K 9241</b>	Wood case painted "Fire Red," with hinged glass front, lock and key and an L 3452 white bakelite push mounted therein Dimensions, $5 \times 5 \times 2$ ins. Weight, 15 oz.	<b>13 6</b>

## **ELECTRIC FANS**

MAGNET electric fans are designed and manufactured at the G.E.C. Fan Works, situated at Witton, near Birmingham—the largest factory in Great Britain devoted entirely to the manufacture of electric fans.

In the construction of all G.E.C. fans great care is exercised in the manufacture of the windings, and the armature and field coils are subjected to stringent tests before being passed for assembly. In this way and by using only the highest grade materials, the windings can be relied upon to withstand the most adverse tropical conditions.

Commutators consist of hard-drawn copper segments built up on a separate sleeve and insulated from one another and from the sleeve with best quality mica. This ensures that the mica wears evenly with the copper bars, thus obviating commutation troubles.

A wide range of finishes is available, as follows :—

CLASS A. Black enamel with gold lines and polished brass.

CLASS B. Black enamel with gold lines and nickel plate.

CLASS C. Black enamel with gold lines and oxidised copper.

CLASS D. White enamel with gold lines and nickel plate.

CLASS E. White enamel with gold lines and oxidised copper.

The enamelling process gives a glass-hard unchippable surface of stoved enamel. The standard finish for a given fan is indicated in this catalogue by the appropriate letter. Should any of the other finishes mentioned above, or some special finish, e.g., cream, gilt, bronze, etc., be desired, it can be provided at an extra cost if a sufficient quantity of fans is ordered. Theatre decorations, ship saloon fittings and other interiors can be matched as required. In the event of unclassified finishes being specified, a sample should be submitted.

MAGNET fans are tested in a specially designed test room. *Every* fan motor is tested for two hours on full load, and complete test records for each motor are filed. At each stage of manufacture the closest attention is given to ensure silent running. Magnetic humming due to A.C. circuits has been practically eliminated. A series of special silence chambers have been erected to allow clients to have either a large group of fans or any individual unit run on silence test.

The methods adopted for packing fans both for home and export use guarantee their safety in transit. Each motor is packed in a separate box, which is then placed in a substantial case. The bulk and weight of each case is regulated to the best advantage from the point of view of freightage. Blades and guards are wrapped in tissue paper protected by corrugated paper and are then packed in parcels separate from the motor but included in the same case. The rods and blades of ceiling fans are packed in separate parcels, the blades being carefully balanced, poised, and arranged in sets of three.

For export the motors and all accessories are packed in cases lined with waterproof material. Full details of shipping dimensions, weights, etc., are given for each fan at the foot of the respective pages. The quantities of fans in each case are so chosen that the size and weight is convenient for places where there are no facilities for handling heavy and bulky packages.

The above description applies in general to all MAGNET electric fans.

# **S.E.C.**

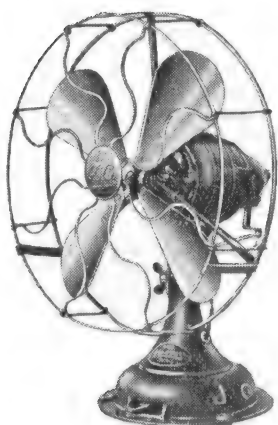
## **TABLE AND BRACKET FANS**

### **Direct and Alternating Current**

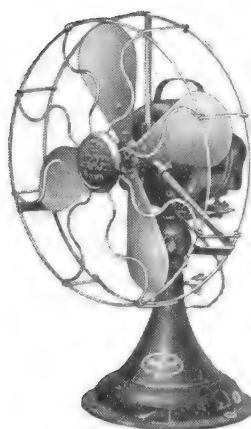
These fans may be divided roughly into two classes, according to the degree of movement and adjustment provided. Both non-oscillating and oscillating patterns are adaptable for table or bracket use.

In the non-oscillating pattern adjustment is available in either position, so that the direction in which the air is projected can be varied as required.

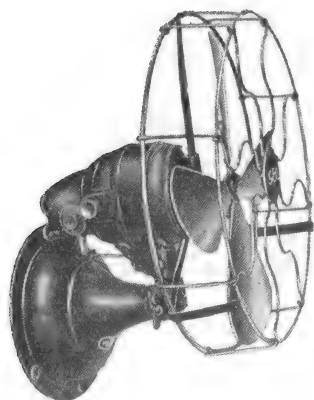
In the oscillating patterns a continuous movement over a wide area is provided by means of special mechanism.



**D.C. Oscillating Fan as Table Fan.**



**A.C. Oscillating Fan as Table Fan.**



**D.C. Oscillating Fan as Bracket Fan.**



**Regulator Switch as fitted to D.C. Table and Bracket Fans.**

## **TABLE AND BRACKET FANS**

### **Direct and Alternating Current**

#### **10-inch D.C. and A.C. Types**

The 10-inch non-oscillating fan is equipped with a protected type series wound universal motor, which is suitable for operation on either D.C. or A.C. circuits ; the 10-inch oscillating fan is fitted with either an A.C. or a D.C. protected type series commutator motor.

The field system is laminated throughout and is built up from high permeability steel sheets, which are carefully insulated from each other to reduce eddy current losses. Humming on A.C. circuits is eliminated by riveting the laminations together under great pressure.

The design of the brush holders is such that the brushes can be changed without opening up the motor in any way, and connections are so arranged that no fragile insulation or live parts are exposed.

#### **12-inch and 16-inch Direct Current Types**

For 12-inch and 16-inch fans the universal motor is not used, as the difference in performance on A.C. and D.C. circuits of motors of suitable outputs is too large to permit of satisfactory operation unless serious restrictions are imposed on the design.

The construction of the D.C. motors is similar to that of the universal machine already described, except that in the case of the 16-inch fan motor the field system is not completely laminated, a cast-iron shell being employed.

#### **12-inch and 16-inch Alternating Current Types**

For A.C. circuits from 40 to 60 cycles 12-inch and 16-inch fans are equipped with induction motors, the stators being built up of stampings, which are carefully insulated from each other and riveted together under pressure. The motors are of the protected type and will run for prolonged periods without any attention other than occasional oiling of the bearings.

**BEARINGS.**—Bearings of ample size are provided, phosphor-bronze bushes being employed. Lubrication is effected by oil, which is fed to the bearings by means of felt pads contained in specially shaped reservoirs.

**REGULATION.**—All types of fans are fitted with regulators, which are of the resistance type for the 10-inch fans and for the larger D.C. fans, and of the choker type for the larger A.C. fans. All regulators are of fire-proof construction. In the case of 10-inch fans the resistance wire is wound on a metal spool and is insulated with asbestos, while for larger fans the resistance is wound on pure mica.

An "off" position and two running positions (on 10-inch fans) or three running positions (on 12-inch and 16-inch fans) are provided, all positions being marked on the base of the fan. The switch is arranged to give positive operation.

**BLADES.**—The blades are punched out of sheet brass and are so shaped as to give maximum volumetric efficiency. They are balanced both statically and dynamically to obviate troubles due to vibration. Fans intended for blowing downwards, as in theatres or ships' cabins, have a split pin and washer on the shaft to prevent the blades being displaced.

**GUARDS.**—These are carried on spring steel struts, which are fitted into holes drilled in the bearing brackets, the guard being held in a rigid position. This construction entirely obviates the risk of a loosely fitting guard.

## TABLE AND BRACKET FANS

**Direct and Alternating Current—Oscillating Pattern  
10-inch D.C. and A.C. and 12-inch D.C. Types**

Details of the oscillating mechanism of these types are given in the illustrations below. The link F (fig. 2) is fitted on the crank stud, and the other end is pivoted in a fixed position  $F_1$  on a stud R, which is mounted on the tilting saddle O (fig. 1).

The fan motor is supported by a shank M (fig. 1), which is cast on the oscillating gear housing. The shank is bored to receive a stem N, which is fixed to the tilting saddle O, and is held in position by a retaining screw P. The weight of the oscillating parts of the motor is carried on the ball thrust bearing S.

The crank driving mechanism (fig. 2), is enclosed in a grease-packed chamber formed in the motor bearing bracket, and is operated by a worm A mounted on the end of the armature shaft, and engaging with a worm wheel B, which is mounted free on a layshaft C and forms part of the slipping clutch mechanism. A second worm cut on this shaft engages with a worm wheel D, which is rigidly fixed to the oscillating shaft E, on which the link F is pivoted.

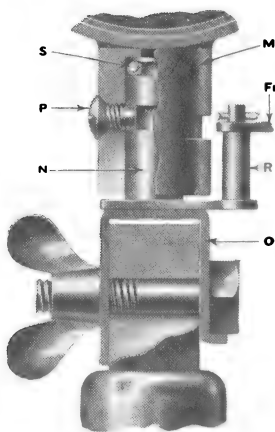


Fig. 1.

Details of Oscillating Mechanism  
—10-in. D.C. & A.C. and 12-in. D.C. Fans.

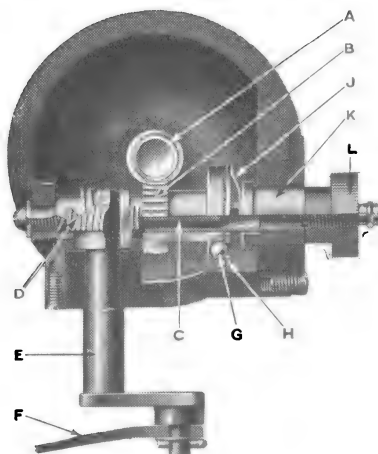


Fig. 2.

The slipping clutch and quick release device are mounted on the layshaft C. The wormwheel B is provided with a flange in which three holes are drilled,  $120^\circ$  apart. A steel ball G is placed in each of the holes and projects above the face of the flange, while a steel plate H, which is drilled to correspond with the flange, is pressed against the flange face by means of a spring J. Both the steel plate and the spring are mounted on the layshaft and are provided with holes which have flat sides to correspond with the flats provided on the layshaft. They are thus free to move along the layshaft but must always rotate with it.

A floating bearing K is mounted on the layshaft in such a manner that it is free to move along the shaft but must always rotate with it. A milled adjusting nut L is provided at the end of the shaft by means of which pressure can be applied through the floating bearing, spring and steel plate to the flange of the wormwheel, the captive ball G acting as the driving medium. To stop the fan oscillating, it is only necessary to slacken the milled nut L.

If the oscillation of the fan be restricted by an obstruction, the clutch slips and thus prevents the oscillating mechanism from being damaged, the force transmitted by the clutch being very small.

## TABLE AND BRACKET FANS

### Direct and Alternating Current—Oscillating Pattern

#### 16-Inch D.C. and 12-Inch and 16-Inch A.C. Types

Details of the oscillating mechanism for these fans are given in figs. 3 and 4 below. A link (seen in fig. 3) is pivoted in a fixed position  $J_1$ , on the top half of the tilting ball, the other end being fitted on the crank stud  $D_1$  (fig. 4). The fan motor is supported on a plate  $K$ , to which a steel stem  $K_1$  is attached. This stem works in a hole bored in the tilting ball, and is recessed at the bottom to receive a steel ball, which supports the whole weight of the oscillating parts of the motor.

The crank driving mechanism is built up in one unit on a brass casting  $L$  (see fig. 4) and is enclosed in a grease-packed chamber formed in the motor bearing bracket; it is operated by means of a worm  $A$  mounted on the end of the rotor shaft. This worm engages with a worm wheel  $B$ , which is fixed on a vertical shaft. A pinion which is cut on this shaft engages with a spur wheel  $C$ . This spur wheel is mounted freely on another

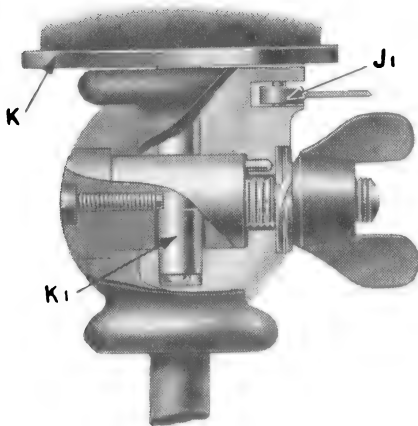


Fig. 3.

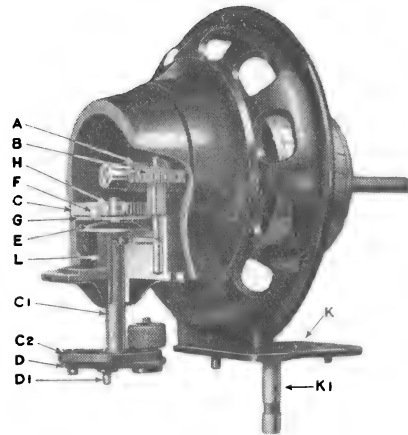


Fig. 4.

Details of Oscillating Mechanism—16-in. D.C. and 12-in. & 16-in. A.C. Fans.

vertical shaft  $C_1$ , on the lower end of which is a plate  $C_2$  and a pivoted plate  $D$ , fitted with a stud  $D_1$ , and is also provided with a slot for adjustment. By loosening the knurled nut (seen on the right hand side of the plate  $C_2$ ) and altering the degree of eccentricity the desired sweep can be obtained.

The drive is transmitted from the spur wheel to the crank through a safety clutch. The spur wheel  $C$  is provided with three recesses into which steel balls  $F$  are fitted and held in position by a hardened steel plate  $G$ , having holes corresponding with the recesses in the spur wheel, into which the balls come to rest and transmit the drive to the spur wheel shaft. The plate  $G$  has a hole in the centre with two flat sides and the shaft is machined to fit; this prevents it revolving on the shaft but allows vertical movement. The special spring  $E$  keeps the plate and spur wheel in engagement through the balls, the whole clutch mechanism being held together by the key washer  $H$ .

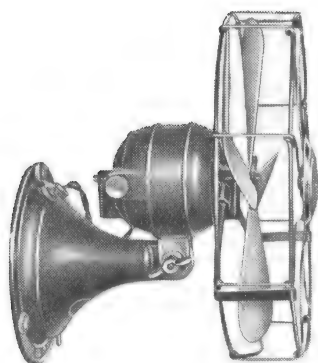
If the oscillation of the fan is restricted by any obstruction the plate comes out of engagement with the balls, and the spur wheel is allowed to rotate freely on the shaft and continues to do so until the obstruction is removed. The fan should in no circumstances be allowed to run for any length of time with the oscillating movement obstructed.

## TABLE AND BRACKET FANS

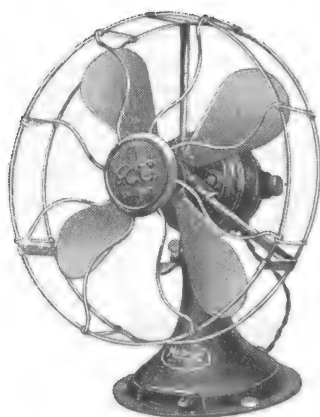
Direct Current and Alternating Current (50 Cycles)

Non-Oscillating Universal Series Pattern

10-Inch (25-cm.) BLADES



V 100/2/6  
As Bracket Fan



V 100/2/6  
As Table Fan

**General.**—Fitted with a tilting movement to allow easy alteration in direction of air disturbance, permitting of use as either table or bracket fan. Full particulars of these fans are given on pages 860 and 861

**Motor.**—Protected type ; body and poles laminated ; low temperature rise.

**Regulator.**—Fitted in base ; provides " off " position and two speeds.

**Finish.**—The standard finish is black enamel with gold lines and oxidised copper (for details of other finishes see page 859).

Cat. No.	Voltage.	Speed. R.P.M.	Consumption. watts.	Net weight (approx.)		Price each.		
				lb.	kilos.	£	s.	d.
V 100	100/110	} 1400 A.C. 1700 D.C.	33 A.C.	7	3.4	2	8	0
V 102	200/225		45 D.C.					
V 106	230/250							

### SHIPPING PARTICULARS

Quantity per case.	Net weight.			Gross weight.			Cubic dimensions.		Price of case (per fan).	
	qrs.	lb.	kilos.	cwt.	qrs.	lb.	ft.	metres.	s.	d.
12	3	12	44	1	0	24	62	7	20	1 0

These fans can also be packed in cases of 24, when the weights and dimensions will be approximately double those given above.

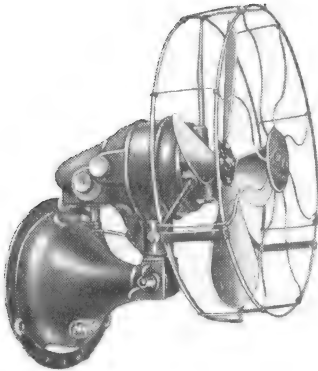
When ordering please quote Catalogue Number, Voltage and (for A.C.) Frequency.

NOTE.—For Spare Parts Diagram see page 909 ; for Spare Parts Prices see page 924.

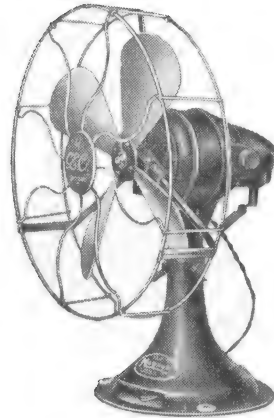


## TABLE AND BRACKET FANS

**Direct Current and Alternating Current (50 Cycles)  
Oscillating Series Commutator Pattern  
10-inch (25-cm.) BLADES**



**V 108/10/14**  
As Bracket Fan



**V 108/10/14**  
As Table Fan

**General.**—These fans possess similar features to the non-oscillating series commutator pattern table and bracket fan, with the addition of a simple oscillating mechanism operative during motion over a wide range and fitted with a slipping device, which allows the blades to continue revolving even if the oscillation is prevented by some external obstruction. A description of these fans, with sectional diagrams, is given on pages 860 to 862.

**Finish.**—The standard finish is black enamel with gold lines and oxidised copper (for details of other finishes see page 859).

### DIRECT CURRENT

Cat. No.	Voltage.	Speed.	Consumption.	Net weight (approx.)		Price each.		
		R.P.M.		lb.	kilos.	£	s.	d.
V <b>108</b>	100/110	1700	35	8½	3.85	<b>3</b>	<b>8</b>	<b>0</b>
V <b>110</b>	200/225							
V <b>114</b>	230/250							

### ALTERNATING CURRENT

Cat. No.	Voltage.	Frequency.	Speed.	Consumption.	Net weight (approx.)		Price each.		
		cycles.	R.P.M.		lb.	kilos.	£	s.	d.
V <b>109</b>	100/110	50	1400	42	8½	3.85	<b>3</b>	<b>8</b>	<b>0</b>
V <b>111</b>	200/225								
V <b>115</b>	230/250								

### SHIPPING PARTICULARS.

Quantity per case.	Net weight.		Gross weight.		Cubic dimensions		Price of case (per fan).	
	cwt.	qrs. lb.	kilos.	cwt.	qrs. lb.	kilos.	ft.	metres.
12	1	0 18	59	1	3 8	93	7½	.21
							s.	d.
							<b>1</b>	<b>1</b>

These fans can also be packed in cases of 24, when the weights and dimensions will be approximately double those given above.

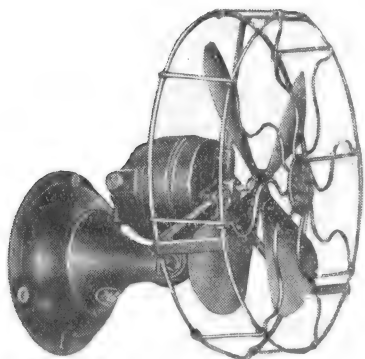
When ordering please quote Catalogue Number, Voltage and (for A.C.) Frequency.

NOTE.—For Spare Parts Diagram see page 910 ; for Spare Parts Prices see pages 924 and 925

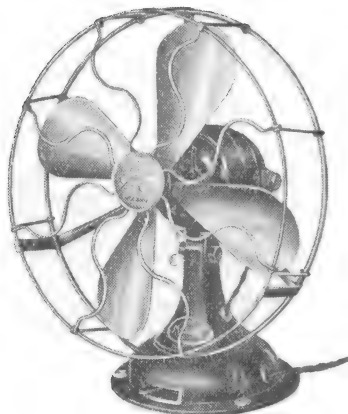
## TABLE AND BRACKET FANS

### Direct Current—Non-Oscillating Laminated Pattern

### 12-inch (30-cm.) BLADES



**V 116 / 18 / 22**  
As Bracket Fan



V 116/18/22  
As Table Fan

**General.**—Fitted with a tilting movement to allow easy alteration in direction of air disturbance, permitting of use as either table or bracket fan. Full particulars of these fans are given on page 861.

**Motor.**—Protected type ; body and poles laminated ; low temperature rise.

**Regulator.**—Fitted in base ; provides “ off ” position and three speeds.

**Finish.**—The standard finish is black enamel with gold lines and oxidised copper (for details of other finishes see page 859).

Cat. No.	Voltage.	Speed.	Consumption.	Net weight (approx.)		Price each.		
		R.P.M.	watts.	lb.	kilos.	£	s.	d.
V <b>116</b>	100/110	} 1400	32	11	5	<b>3</b>	<b>2</b>	<b>0</b>
V <b>118</b>	200/225							
V <b>122</b>	230/250							

### SHIPPING PARTICULARS.

Quantity per case.	Net weight.				Gross weight.		Cubic dimensions.		Price of case (per fan).			
12	cwt. qrs. lb.			kilos.	cwt. qrs. lb.		kilos.	ft.	metres.	s.	d.	
	1	2	0	76	1	3	16	97	14	4	1	7

These fans can also be packed in cases of 24, when the weights and dimensions will be approximately double those given above.

*When ordering please quote Catalogue Number and Voltage.*

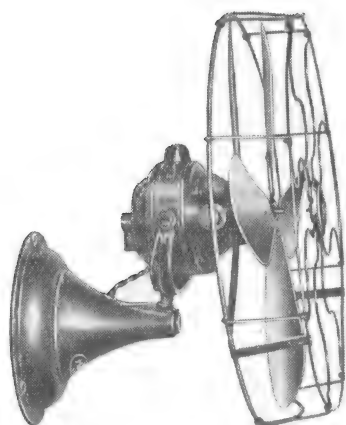
**NOTE.**—For Spare Parts Diagram see page 911 ; for Spare Parts Prices see page 925.

# TABLE AND BRACKET FANS

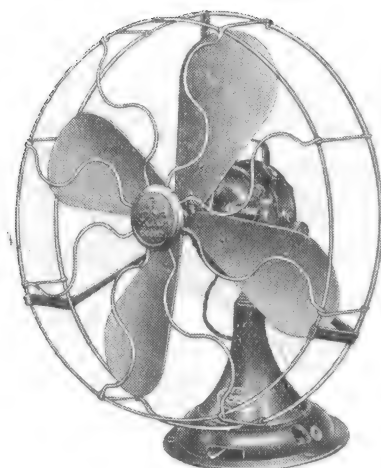
**Direct Current—Non-Oscillating Laminated Pattern**

**16-inch (40-cm.) BLADES**

(Specially suited for large rooms owing to exceptional air delivery and long range)



**V 124/26/30**  
As Bracket Fan



**V 124/26/30**  
As Table Fan

**General.**—Fitted with swivel and trunnion movement to allow of easy alteration in direction of air disturbance, permitting of use as either table or bracket fan. Full particulars of these fans are given on page 861.

**Motor.**—Protected type ; body and poles laminated ; low temperature rise.

**Regulator.**—Fitted in the base ; provides " off " position and three speeds.

**Finish.**—The standard finish is black enamel with gold lines and oxidised copper (for details of other finishes see page 859).

Cat. No.	Voltage.	Speed. R.P.M.	Consumption. watts.	Net weight (approx.)		Price each.		
				lb.	kilos.	£	s.	d.
V 124	100/110	1250	65	15½	7	3	16	0
V 126	200/225							
V 130	230/250							

## SHIPPING PARTICULARS

Quantity per case.	Net weight.		Gross weight.		Cubic dimensions.		Price of case (per fan).	
	cwt.	qrs. lb.	kilos.	cwt.	qrs. lb.	kilos.	ft.	metres.
12	1	3 27	100	2	2 18	134	19½	.55
							s.	d.
							2	0

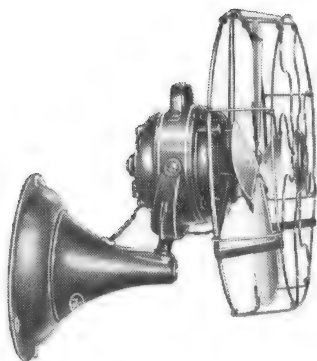
These fans can also be packed in cases of 24, when the weights and dimensions will be approximately double those given above.

*When ordering please quote Catalogue Number and Voltage.*

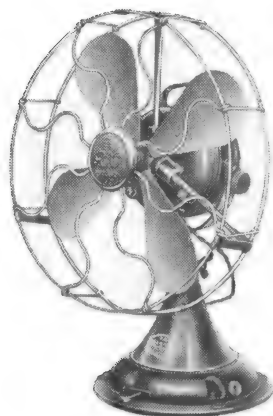
*NOTE.—For Spare Parts Diagram see page 912 ; for Spare Parts Prices see page 925.*

## TABLE AND BRACKET FANS

**Alternating Current—Non-Oscillating Induction Pattern  
12-inch (30-cm.) BLADES**



**V 117/19/21/23**  
As Bracket Fan



**V 117/19/21/23**  
As Table Fan

**General.**—Fitted with swivel and trunnion movement to allow of easy alteration in direction of air disturbance, permitting of use as either table or bracket fan. Full particulars of these fans are given on page 861.

**Motor.**—Induction motor ; protected type ; laminated stator ; low temperature rise.

**Regulator.**—Fitted in base ; provides “ off ” position and three speeds.

**Finish.**—The standard finish is black enamel with gold lines and oxidised copper (for details of other finishes see page 859).

Cat. No.	Voltage.	Frequency.	Speed.	Consumption.	Net weight. (approx.).		Price each.		
		cycles.	R.P.M.	watts.	lb.	kilos.	£	s.	d.
V <b>117</b>	100/110	50	1220	35	17	7.7	<b>3</b>	<b>12</b>	<b>0</b>
V <b>119</b>	200/210								
V <b>121</b>	220/230								
V <b>123</b>	240/250								

### SHIPPING PARTICULARS.

Quantity per case.	Net weight.		Gross weight.		Cubic dimensions.		Price of case (per fan).			
	cwt.	qrs. lb.	kilos.	cwt.	qrs. lb.	kilos.	ft.	metres.	s.	d.
12	2	0 16	109	2	1 23	125	15	.42	1	9

These fans can also be packed in cases of 24, when the weights and dimensions will be approximately double those given above.

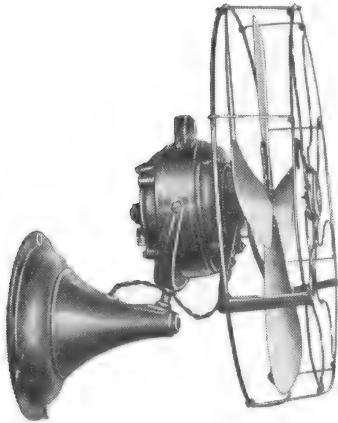
*When ordering please quote Catalogue Number, Voltage and Frequency.*

*NOTE.—For Spare Parts Diagram see page 913 ; for Spare Parts Prices see page 926.*

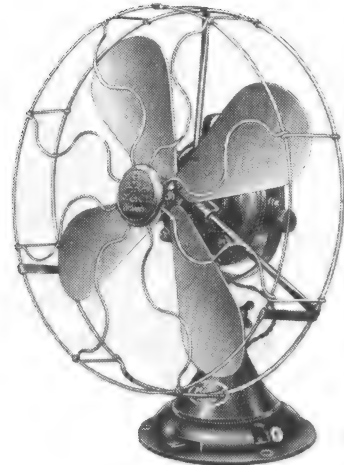
# TABLE AND BRACKET FANS

**Alternating Current—Non-oscillating Induction Pattern  
16-inch (40-cm.) BLADES**

(Specially suited for large rooms owing to exceptional air delivery and long range).



**V 125/27/29/31**  
As Bracket Fan



**V 125/27/29/31**  
As Table Fan

**General.**—Fitted with swivel and trunnion movement to allow of easy alteration in direction of air disturbance, permitting of use as either table or bracket fan. Full particulars of these fans are given on page 861.

**Motor.**—Induction motor, protected type ; laminated stator ; low temperature rise.

**Regulator.**—Fitted in base ; provides " off " position and three speeds.

**Finish.**—The standard finish is black enamel with gold lines and oxidised copper (for details of other finishes see page 859).

Cat. No.	Voltage.	Frequency.	Speed.	Consumption.	Net weight. (approx.).		Price each.		
		cycles.	R.P.M.	watts.	lb.	kilos.	£	s.	d.
V <b>125</b>	100/110	} 50	1200	65	19½	8·8	<b>3</b>	<b>16</b>	<b>0</b>
V <b>127</b>	200/210								
V <b>129</b>	220/230								
V <b>131</b>	240/250								

## SHIPPING PARTICULARS.

Quantity per case.	Net weight.		Gross weight.		Cubic dimensions.		Price of case (per fan).	
	cwt.	qrs. lb.	kilos.	cwt.	qrs. lb.	kilos.	ft.	metres.
12	2	1 24	126	3	0 6	156	20	·57
							s.	d.
							<b>2</b>	<b>1</b>

These fans can also be packed in cases of 24, when the weights and dimensions will be approximately double those given above.

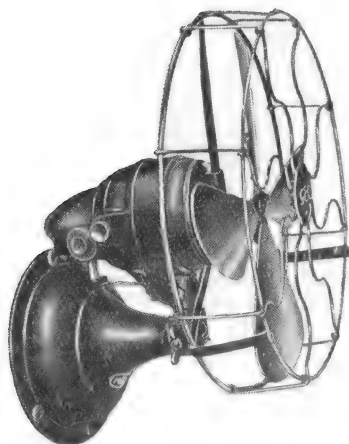
*When ordering please quote Catalogue Number, Voltage and Frequency.*

*NOTE.—For Spare Parts Diagram see page 913 ; for Spare Parts Prices see page 926.*

## TABLE AND BRACKET FANS

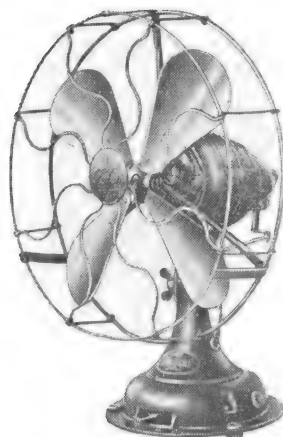
Direct Current—Oscillating Laminated Pattern

12-inch (30-cm.) BLADES



V 132/4/8

As Bracket Fan



V 132/4/8

As Table Fan

**General.**—These fans possess all the features of the non-oscillating laminated pattern table and bracket fans, with the addition of a simple oscillating mechanism operative during motion over a wide range (110°) adjustable down to zero and fitted with a slipping device, which allows the blades to continue revolving even if the oscillation is prevented by some external obstruction. A description of these fans, with sectional diagrams, is given on pages 860 to 862.

**Finish.**—The standard finish is black enamel with gold lines and oxidised copper (for details of other finishes see page 859).

Cat. No.	Voltage.	Speed.	Consumption.	Net weight (approx.)		Price each.		
		R.P.M.		lb.	kilos.	£	s.	d.
V 132	100/110	1400	32	12½	5.7	4	12	0
V 134	200/225							
V 138	230/250							

### SHIPPING PARTICULARS.

Quantity per case.	Net weight.		Gross weight.		Cubic dimensions.		Price of case (per fan).	
12	cwt. qrs. lb.	kilos.	cwt. qrs. lb.	kilos.	ft.	metres.	s.	d.
	1 2 8	84	2 0 17	110	15	.42	1	8

These fans can also be packed in cases of 24, when the weights and dimensions will be approximately double those given above.

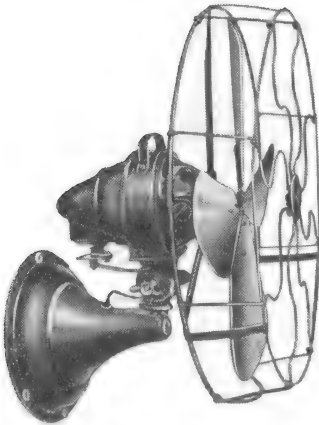
*When ordering please quote Catalogue Number and Voltage.*

*NOTE.—For Spare Parts Diagram see page 914; for Spare Parts Prices see pages 926 and 927.*

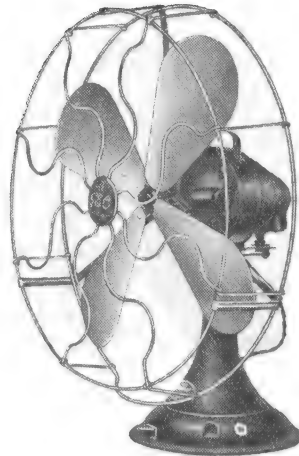
## TABLE AND BRACKET FANS

### Direct Current—Oscillating Pattern

## 16-inch (40-cm.) BLADES



**V 140/2/6**  
As Bracket Fan



**V 140/2/6**  
As Table Fan

**General.**—These fans possess all the features of the non-oscillating laminated pattern table and bracket fans, with the addition of a simple oscillating mechanism operative during motion over a wide range ( $110^{\circ}$ ) adjustable down to zero and fitted with a slipping device, which allows the blades to continue revolving even if the oscillation is prevented by some external obstruction. A full description of these fans, with sectional diagrams, is given on pages 860 to 863.

**Finish.**—The standard finish is black enamel with gold lines and oxidised copper (for details of other finishes see page 859).

Cat. No.	Voltage.	Speed.	Consumption.	Net weight (approx.)		Price each.		
		R.P.M.	watts.	lb.	kilos.	£	s.	d.
V <b>140</b>	100/110	} 1250	65	18½	8·4	<b>5</b>	<b>2</b>	<b>0</b>
V <b>142</b>	200/225							
V <b>146</b>	230/250							

## SHIPPING PARTICULARS.

Quantity per case.	Net weight.		Gross weight.		Cubic dimensions.		Price of case (per fan).			
	cwt.	qrs. lb.	kilos.	cwt.	qrs. lb.	kilos.	ft.	metres.	s.	d.
12	2	0 0	102	3	0 23	162	20	.57	2	2

These fans can also be packed in cases of 24, when the weights and dimensions will be approximately double those given above.

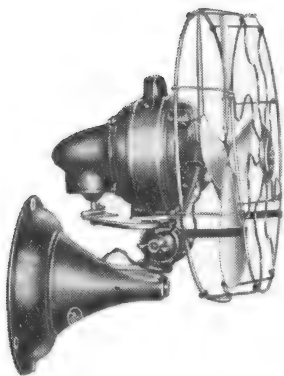
*When ordering please quote Catalogue Number and Voltage.*

**NOTE.**—For Spare Parts Diagram see page 915; for Spare Parts Prices see pages 927 and 928.

## TABLE AND BRACKET FANS

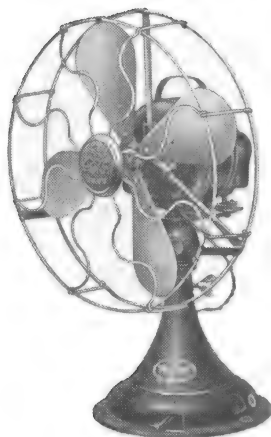
**Alternating Current—Oscillating Induction Pattern**

**12-inch (30-cm.) BLADES**



**V 133/5/7/9**

As Bracket Fan



**V 133/5/7/9**

As Table Fan

**General.**—These fans possess all the features of the non-oscillating induction pattern table and bracket fans, with the addition of a simple oscillating mechanism operative during motion over a wide range (110°) adjustable down to zero and fitted with a slipping device, which allows the blades to continue revolving even if the oscillation is prevented by some external obstruction. A full description of these fans, with sectional diagrams, is given on pages 860 to 863.

**Finish.**—The standard finish is black enamel with gold lines and oxidised copper (for details of other finishes see page 859.)

Cat. No.	Voltage.	Frequency.	Speed.	Consumption.	Net weight. (approx.).		Price each.		
		cycles.	R.P.M.	watts.	lb.	kilos.	£	s.	d.
V <b>133</b>	100/110	50	1220	35	20½	9.2	4	18	0
V <b>135</b>	200/210								
V <b>137</b>	220/230								
V <b>139</b>	240/250								

### SHIPPING PARTICULARS.

Quantity per case.	Net weight.		Gross weight.		Cubic dimensions.		Price of case (per fan).	
	cwt.	qrs. lb.	kilos.	cwt. qrs. lb.	kilos.	ft.	metres.	s. d.
12	2	1 6	117	3 0 23	162	15	.42	1 10

These fans can also be packed in cases of 24, when the weights and dimensions will be approximately double those given above.

*When ordering please quote Catalogue Number, Voltage and Frequency.*

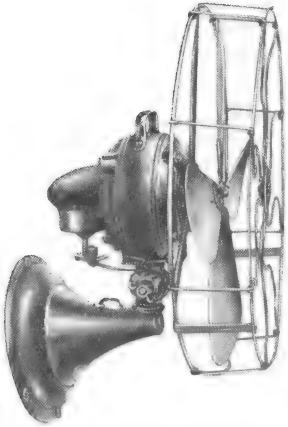
*NOTE.—For Spare Parts Diagram see page 916 ; for Spare Parts Prices see page 928.*



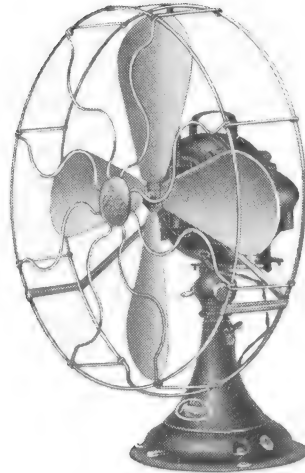
# TABLE AND BRACKET FANS

**Alternating Current.—Oscillating Induction Pattern**

**16-inch (40-cm.) BLADES**



**V 141 / 3/5/7**  
As Bracket Fan



**V 141 / 3/5/7**  
As Table Fan

**General.**—These fans possess all the features of the non-oscillating induction pattern table and bracket fans, with the addition of a simple oscillating mechanism operative during motion over a wide range (100°) adjustable down to zero and fitted with a slipping device, which allows the blades to continue revolving even if the oscillation is prevented by some external obstruction. A full description of these fans, with sectional diagrams, is given on pages 860 to 863.

**Finish.**—The standard finish is black enamel with gold lines and oxidised copper (for details of other finishes see page 859).

Cat No.	Voltage.	Frequency. cycles.	Speed. R.P.M.	Consumption. watts.	Net weight. (approx.).		Price each		
					lb.	kilos.	£	s.	d.
V <b>141</b>	100/110	} 50	1200	65	21	9.55	<b>5</b>	<b>2</b>	<b>0</b>
V <b>143</b>	200/210								
V <b>145</b>	220/230								
V <b>147</b>	240/250								

## SHIPPING PARTICULARS.

Quantity per case.	Net weight.		Gross weight.		Cubic dimensions.		Price of case (per fan).	
	cwt.	qrs. lb.	kilos.	cwt.	qrs. lb.	kilos.	ft.	metres.
12	2	3 3	142	3	2 1	178	22	.62
							s.	d.
							<b>2</b>	<b>3</b>

These fans can also be packed in cases of 24, when the weights and dimensions will be approximately double those given above.

*When ordering please quote Catalogue Number, Voltage and Frequency.*

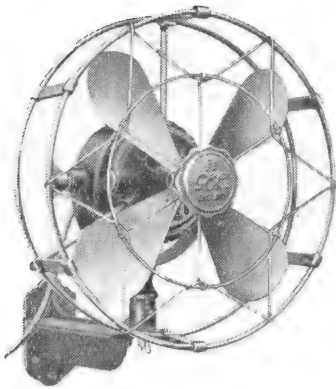
*NOTE.—For Spare Parts Diagram see page 916 ; for Spare Parts Prices see page 929.*

## **SHIP BRACKET AND CEILING FANS**

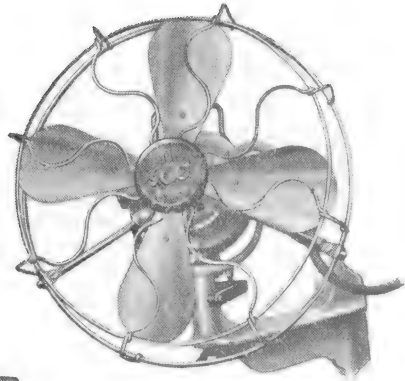
### **Direct Current**

Special considerations have to be taken into account in designing and constructing ship fans. These ship fans embody all the important features of the types of MAGNET electric fans already mentioned and, in addition, meet the particular requirements of marine practice. Most important are the precautions which guard against corrosion due to sea air ; in particular, the inside of the motor is coated with a special resisting enamel.

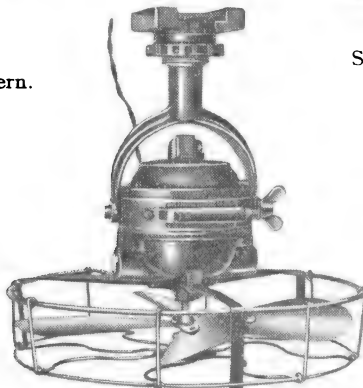
MAGNET ship fans can be supplied in appropriate finishes to match any scheme of cabin or saloon decoration, as described in page 859, and are similar to the standard table and bracket types mounted on a special wall bracket. They are supplied in non-oscillating, oscillating and gyro patterns. The motors are arranged to give two speeds, for which purpose a "two-way and off" switch is necessary. This speed alteration is obtained by means of a special field winding.



**V 3040**  
Ship Type Fan—  
Non-oscillating Pattern.



**V 3048**  
Ship Type Fan—  
Gyro Pattern.

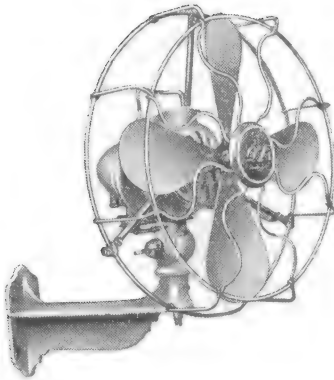


**V 3058**  
Ship Type Fan—  
Non-oscillating Pattern.

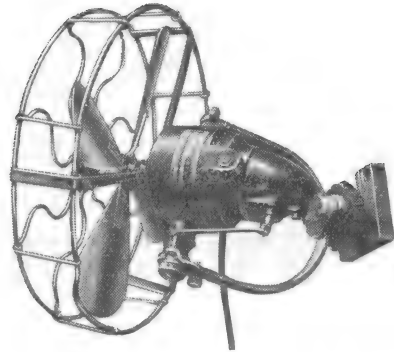
*For Specifications, further Illustrations and Prices see next page.*

# SHIP BRACKET AND CEILING FANS

**Direct Current—Non-Oscillating, Oscillating and Gyro Patterns**  
**12-inch (30-cm.) BLADES**



**V 3048**  
Gyro Fan



**V 3078**  
Oscillating Fan

**General.**—Cat. Nos. V **3040/8** are mounted on a special bracket and can be supplied in either non-oscillating or gyro patterns.

Cat. No. V **3058** is of the non-oscillating pattern, fitted with a swivel and trunnion movement, and is arranged with a special shoe-type backplate, which permits neat fixing to the ceiling or bulkhead. This shoe fixing allows quick withdrawal and disconnection and is so constructed that it is impossible for the fan to fall should the nut shake loose. Cat. No. V **3078** is an oscillating fan, fitted with a similar shoe-type back plate. For further details see page 874.

**Motor.**—Enclosed type; designed to withstand excessive vibration; two-speed winding, controlled by a "two-way and off" switch.

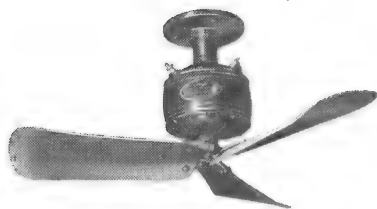
**Finish.**—The standard finish is black enamel with gold lines and oxidised copper for Cat. No. V **3040**, white enamel with gold lines and nickel plate for V **3084** and either black enamel with gold lines and oxidised copper or white enamel with gold lines and nickel plate for V **3058** and V **3078** (for details of other finishes see page 859).

Cat. No.	Type.	Voltage.	Max. Speed.	Con- sumption.	Net weight (approx.).		Price each.
			R.P.M.	watts.	lb.	kilos.	
V <b>3040</b>	Non-Oscillating	220	1400	32	16	7.3	On application
V <b>3048</b>	Gyro						
V <b>3058</b>	Non-Oscillating	220	1100	40	13	5.8	
V <b>3078</b>	Oscillating						

# S.E.C.

## SHIP AND RAILWAY CEILING FANS

**Direct Current—THE "MYNA" TYPE**  
**24 or 36-inch (60 or 90-cm.) THREE-WAY BLADES**



V 1312/9

**General.**—The MYNA ceiling fan is specially recommended for general purposes where head-room is limited. It can be used on ships or railways in certain cases. Fitted with back plate to screw direct on to ceiling, or can be supplied with down rod of any length.

**Motor.**—The motor is specially designed for silent running and is provided with a safety device to enable it to withstand the excessive vibration likely to be experienced on ships or trains.

**Blades.**—Fitted with three curved aluminium blades

**Finish.**—The standard finish is black enamel with gold lines and nickel plate (for details and other finishes see page 859). The aluminium blades are frosted to prevent flicker whilst rotating.

**Regulators.**—Regulators, Cat. Nos. V 1260/2, should be used with these fans (see page 891).



V 1312/9

Cat. No.	Sweep.		Voltage.	Speed.	Consumption.	Net weight (approx.)		Price each (with backplate).		
	ins.	cm.				lb.	kilos.	£	s.	d.
V 1312	24	60	50/65	550	50	17	7.7	3	16	0
V 1313	24	60	100/115							
V 1314	24	60	200/225							
V 1315	24	60	230/250							
V 1316	36	90	50/65	330	60	23	10.5	4	6	0
V 1317	36	90	100/115							
V 1318	36	90	200/225							
V 1319	36	90	230/250							

Extra. DOWN ROD .. .. per foot 1s. 4d.

### SHIPPING PARTICULARS.

Sweep.		Quantity per case.	Net weight.		Gross weight.		Cubic Dimensions.		Price of case (per fan).	
ins.	cm.		cwt.	qrs. lb.	kilos.	cwt.	qrs. lb.	kilos.	ft.	metres
24	60	12	1	3 8	92	2	2 17	135	7	.2
36	90	12	2	2 0	126	3	0 25	164	7	.2
									s.	d.
									1	6
									1	7

These fans can also be packed in cases of 24, when the weights and dimensions will be approximately double those given above.

*When ordering please quote Catalogue Number and Voltage.*

*NOTE.—For Spare Parts Diagram see page 921 ; for Spare Parts Prices see page 932.*

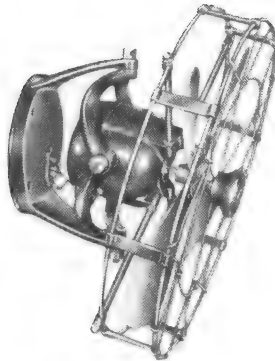
# RAILWAY WALL, BRACKET AND CEILING FANS

## Direct Current

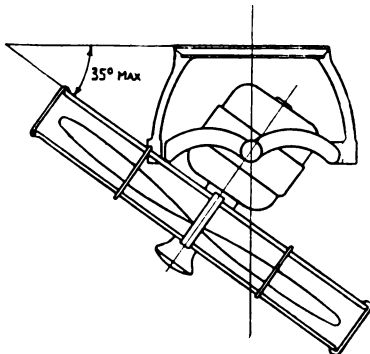
MAGNET railway fans are made in two types, viz., the 9½-inch wall-mounting pattern, which is for use in lavatories, bathrooms and small compartments, and the 16-inch roof pattern, for use in large compartments. The fans are so designed that they can be readily adjusted to blow in the required direction without slackening any fixing screws, while any risk of the fan creeping from the desired position is eliminated by means of a specially designed swivel pin. The diagrams below show the maximum angles obtainable in either direction for the 16-inch fan.

The fans are so designed that a motor can readily be replaced by a spare. The operations for withdrawing the motor are extremely simple and include the removal of only three screws. On long distance trains in the tropics it is, therefore, a simple matter for a member of the train staff to carry out this work should a breakdown occur. All spare motors are supplied complete with bearings, so that there is no risk of their being disturbed when they are fitted to the fans on site.

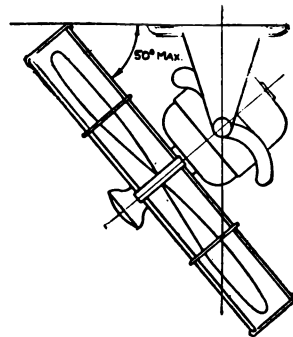
The motors are equipped with ball bearings and are of very robust construction ; exceptionally strong guards are fitted to obviate any risk of damage to the fan.



V 159 Railway Fan.



Maximum lateral angle obtainable with 16-in. Railway Fan.

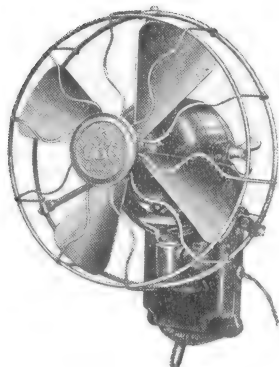


Maximum transverse angle obtainable with 16-in. Railway Fan.

*For Specification and Prices see next page.*

## RAILWAY WALL, BRACKET AND CEILING FANS

**Direct Current—Non-Oscillating Patterns**  
**9½ or 16-inch (24 or 40-cm.) BLADES**



**V 157**  
Bracket Fan

**General.**—The 9½-inch fan is specially constructed for wall mounting, and the 16-inch fan is designed for ceiling or bracket fixing. The fans can be adjusted to blow in any direction and to remain where fixed without adjustment of screws, etc. They are fitted with strong handle pattern guards. For further details see page 877.

**Finish.**—The standard finish is white enamel with gold lines and oxidised copper (for details of other finishes see page 859).

Cat. No.	Diameter of blades.		Voltage.	Speed.	Consumption.	Net weight (approx.).		Price.
	ins.	cm.		R.P.M.	watts.	lb.	kilos.	
<b>V 157</b>	9½	24	24	1650	16	12.5	5.7	} On application
<b>V 159</b>	16	40	24	1150	42	22	10	

*When ordering please quote Catalogue Number and Voltage.*

**NOTE.**—For Spare Parts Diagrams see pages 922 and 923. For Spare Parts Prices see page 933.

### SPEED REGULATOR AND SWITCH For 16-inch Railway Fan



The regulator comprises a number of resistance elements, which are wound on mica and enclosed in a cast-iron case with oxidized copper finish. The resistance elements can easily be replaced should occasion arise. Ample provision is made for ventilation.



**V 160**  
Regulator and Switch  
for 16in. Railway Fan.

The switch has three speeds and an "off" position and is mounted independently of the resistance in any convenient position. It is designed for flush mounting and is finished to match the resistance unit.

Catalogue No. **V 160** Price on application.

Dimensions : Switch panel, 2½ × 3 × 1 ⅞ in. deep.

Resistance blocks, 3 × 3½ × 2½ in. deep.

Weight : Switch panel, 10 oz. ; Resistance block, 2 lb.

## CEILING FANS

### Direct and Alternating Current.

Considerable attention has been given by the G.E.C. to the design and manufacture of a range of Ceiling Fans for both A.C. and D.C. circuits. These, while eminently useful for the United Kingdom, are also particularly suitable for overseas countries where severe conditions prevail. The great variety of finishes makes it possible to meet the widest requirements in the way of decorative finish to harmonize with surroundings.

All the fans described in this catalogue are arranged to run for long periods without requiring lubrication.

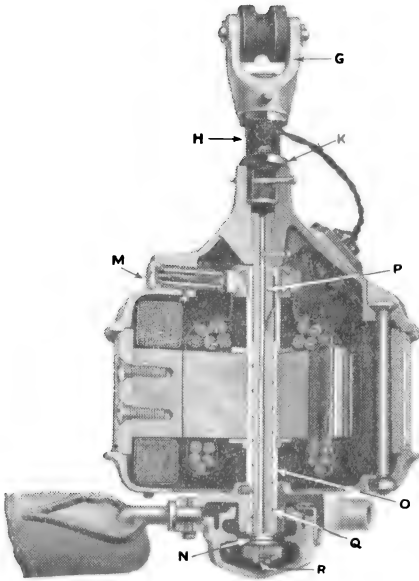
In the case of the KINGSWAY, MALAYA and MALAYA JUNIOR Fans the motor is arranged to permit the fitting of an electrolier. In the SUPER SWAN and EVEREST Fans this feature is omitted in order to allow for the Swan patent lubrication system.

The tests on each motor include a two hours' run on rated voltage, and the permissible temperature rise of the motor is limited to 54°F. above the surrounding atmosphere for both direct and alternating current fans. All windings are subjected to an alternating pressure test of 1,000 volts.

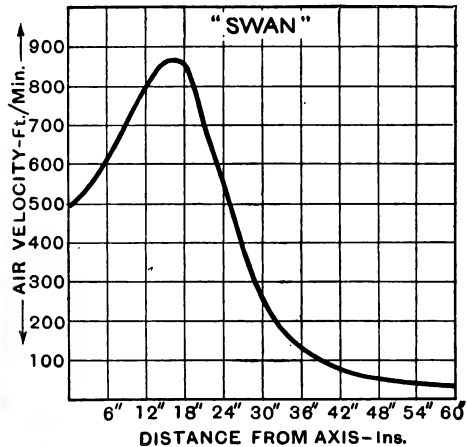
The blades are made of aluminium carefully moulded to a definite contour, the evolution of which has been a matter of considerable research. The helical pitch, together with the contour, guarantees a maximum volumetric efficiency. All blades are carefully weighed, poised and arranged in sets and are frosted to prevent flicker when rotating. The blades have been so designed and set that the air is delivered in pulses so that the cooling effect is far more pronounced than in the case of a constant velocity stream.

### THE "SUPER SWAN"

#### Direct Current



The SUPER SWAN Ceiling Fan.



Air Velocity Curve of SUPER SWAN Ceiling Fan.

## CEILING FANS

### The "SUPER SWAN."

#### Direct Current.

A sectional arrangement of the SUPER SWAN Fan is given in the illustration in the previous page. The motor is drip-proof and is of the four-pole series wound type.

The carbons are carried in brush holders M and are specially chosen to prevent trouble due to noise.

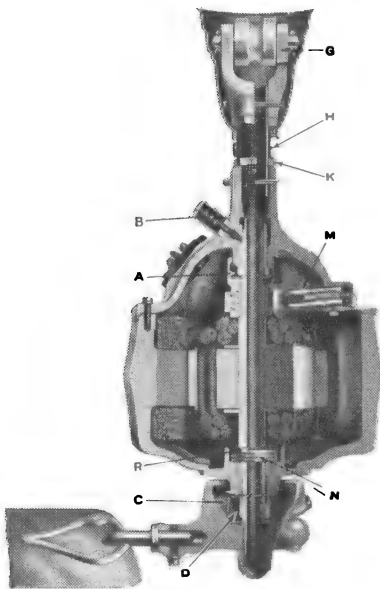
The weight of the armature is taken by a ball thrust washer N, running in a totally enclosed oil bath, which is protected against dust and insects. The position of the armature in relation to the magnetic field is very carefully adjusted, so that the magnetic pull, together with the air pressure on the underside of the fan blades, reduces the friction to a minimum. All dust that is deposited is kept out of the motor windings and out of the motor air gap.

The armature is built up on a substantial gunmetal sleeve O, which rotates about a fixed hollow central spindle P. The sleeve O also carries the fan spider to which the blades are attached. Helical grooves Q are machined on the internal surface of the sleeve, so that when the motor is running, lubricant is forced from an oil bath at the bottom of the fan up between the stationary spindle and sleeve to the top of the sleeve, where it passes into an annular chamber formed in the interior of the latter. Exits are provided so that the lubricant returns by gravity to the well through the return duct R, and the lubricating system is totally enclosed.

The terminals are mounted externally to the fan and are easily accessible. The motor is suspended on a shackle G by means of a drawn steel tube H. This is effectively locked in position by a steel cotter pin and a check nut K.

An air velocity curve, showing the velocity of the air disturbance at various distances from the axis of the fan, is given at the foot of the previous page.

*For Specification and Prices see page 885.*



The MALAYA Ceiling Fan.

### The "MALAYA" and "MALAYA JUNIOR"

#### Direct Current

The MALAYA and MALAYA JUNIOR Fans are made with blades of 56-inch and 48-inch sweeps respectively. In appearance the two types are otherwise identical.

The motor is of the four-pole series wound, totally-enclosed type, the carbons being carried in brush holders M (shown in sectional drawing on this page). The weight of the armature is taken by a ball thrust washer N, which is protected from dust by the spinning seal R. The position of the armature in relation to the magnetic field is very carefully adjusted so that the magnetic pull, together with the air pressure on the underside of the fan blades, reduces the friction to a minimum. The fans are specially suitable for tropical conditions.

*(continued on following page).*



## CEILING FANS

### The "Malaya" and "Malaya Junior"—*continued.*

Lubrication is effected in the upper bearing by a supply of grease contained in the cup A, which is picked up by a helical groove cut in the bush. Additional lubricant may be added from time to time through the wick lubricator B.

In the bottom bearing a supply of lubricant is placed in the oil cup D, from which it is fed to the bearing by means of three wicks C. A spiral groove cut in the shaft carries the lubricant up to the ball thrust bearing N, and any excess lubricant is returned to the oil cup D.

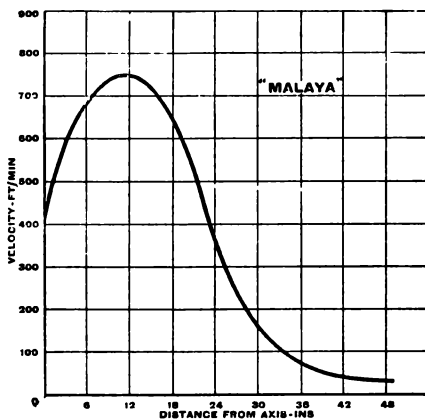
The blade carrier, which incorporates the oil cup D, is so formed that it acts as an additional safeguard against grease dropping.

The terminals are mounted externally to the fan and are easily accessible. The motor is suspended from the shackle G by means of a drawn steel tube H. This is effectively locked in position by a steel cotter pin and a check nut K.

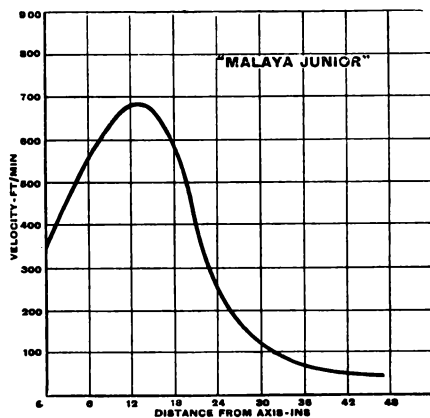
The blades, which are of a contour developed by exhaustive research to ensure minimum slip and high volumetric efficiency, are maintained in position by means of set screws which pass right through the bladeholder shanks, thus preventing the possibility of the blades working loose.

Air velocity curves of the 56-inch and 48-inch fans are given below. These curves show the velocity of the air disturbance at various distances from the axis of the fan.

If desired an electrolier may be attached by means of a tube passing through the hollow shaft of the armature.



Air Velocity Curve of MALAYA Fan, 56-in. sweep.



Air Velocity Curve of MALAYA JUNIOR Fan, 48-in. sweep.

*For Specification and Prices see pages 886 and 887.*

## **CEILING FANS**

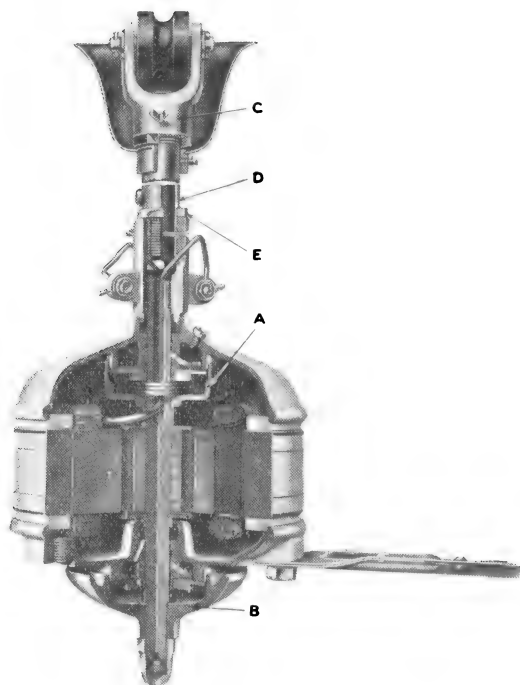
### **THE "KINGSWAY" and "KINGSWAY JUNIOR"**

#### **Alternating Current**

The KINGSWAY Fan is made with blades of 56-inch sweep, while the KINGSWAY JUNIOR Fan is supplied with blades of 44-inch sweep. In appearance the two types are otherwise identical.

The motor is of the induction self-starting type, and is totally enclosed, so that all dust is kept out of the motor windings and out of the motor air gap.

Mica insulation is used throughout, and special precautions are taken in the factory to prevent any possibility of the surfaces of the rotor and stator gap becoming rusted.



The KINGSWAY and KINGSWAY JUNIOR Ceiling Fans.

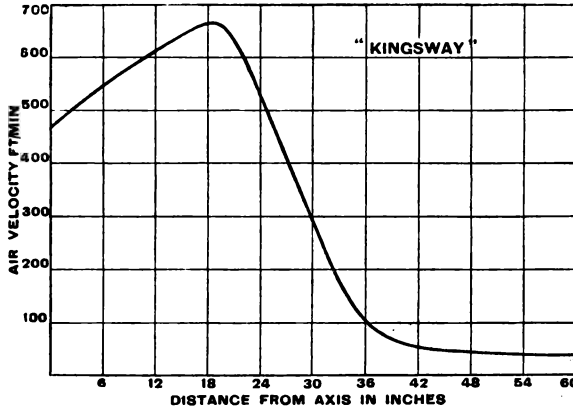
The friction losses have been reduced to a minimum as the weight of the rotating parts is carried on a ball thrust bearing, which runs in a grease chamber A (see Sectional Drawing above). The guide bearings are lubricated by means of wicks, which lead the grease from containers formed in the bearing housings to the rubbing surfaces. Grooves are provided to ensure the correct distribution of the lubricant, while return ducts lead any excess grease back to the containers. The arrangements are such that there is no possibility of grease or oil falling on to the winding or dropping from the fan. This method of lubrication has been thoroughly proved, and is found to be most efficient.

*(continued on following page)*

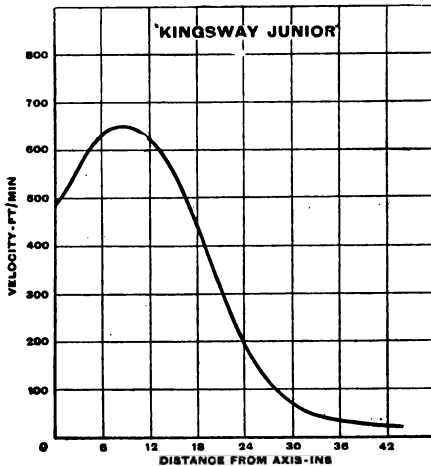
## CEILING FANS

### The "Kingsway" and "Kingsway Junior"—*continued.*

The blades are of a contour developed by exhaustive research to ensure minimum slip and high volumetric efficiency.



Air Velocity Curve of KINGSWAY Fan, 56-in. sweep.



Air Velocity Curve of KINGSWAY JUNIOR Fan, 44-in. sweep.

The terminals are mounted externally to the fan and are easily accessible. The motor is suspended from the shackle C by means of a drawn steel tube D. This is effectively locked in position by a steel cotter pin and a check nut E.

The air velocity curves of the 56-inch and 44-inch fans are given on this page. These curves show the velocity of the air disturbance at various distances from the axis of the fan.

The KINGSWAY Fan is provided with a hollow shaft so that an electrolier may be attached if required. In the KINGSWAY JUNIOR Fan no provision is made for this.

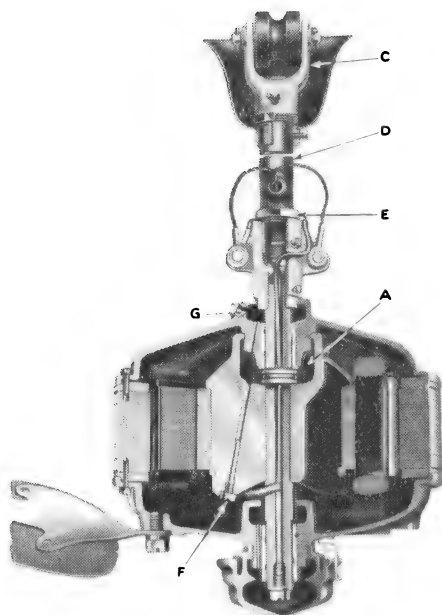
*For Specifications and Prices see pages 888 and 889.*

## CEILING FANS

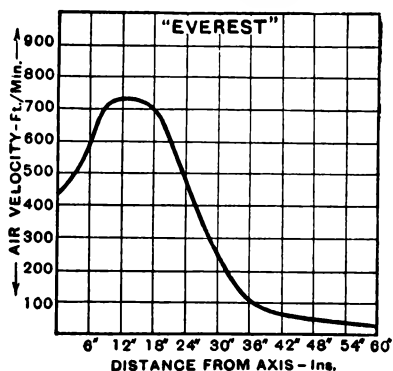
### THE "EVEREST"

#### Alternating Current

The EVEREST fan is equipped with blades having a 58-inch sweep. The motor is of the totally enclosed squirrel-cage type, and is wound for alternating current systems from 40 to 60 cycles. Mica insulation is used throughout, and special precautions are taken to prevent any possibility of the surfaces of rotor and stator gap becoming rusted.



The EVEREST Ceiling Fan.



Air Velocity Curve of EVEREST Ceiling Fan.

The weight of the revolving parts is carried on a ball thrust bearing, which runs in an oil bath A (see drawing on this page); the guide bearings are of the sleeve type equipped with phosphor-bronze bushes. Lubrication is entirely automatic. The top bearing dips into the oil bath A, which is provided with a drain plug F and filling hole G. Access to the drain is obtained through the bottom inspection cover. With each fan a special filler is provided, which contains the correct amount of oil for this reservoir. The bottom bearing dips into a removable oil cup, which is provided with an internal ledge to act as an oil level indicator. The oil cup should be kept filled to this level.

The contour of the blades is designed to give the highest possible volumetric efficiency. They are fixed in position by means of special fittings, which are bolted to accurately machined faces on the underside of the fan. This construction ensures that the correct blade angle is obtained when fitting the blades on site.

The terminals are mounted externally to the fan and are easily accessible. The motor is suspended from the shackle C by means of a drawn steel tube D, which is effectively locked in position by a steel cotter pin and a check nut E.

The air velocity curve, showing the velocity of the air disturbance at various distances from the axis of the fan, is given on the left.

*For Specification and Prices see page 890.*

## CEILING FANS

### THE "SUPER SWAN"

(Patent No. 28333/09)

#### Direct Current

#### 3 CURVED BLADES, 58-inch (147-cm.) SWEEP

**General.**—The SUPER SWAN is the most reliable ceiling fan on the market. Its superiority is due to:—

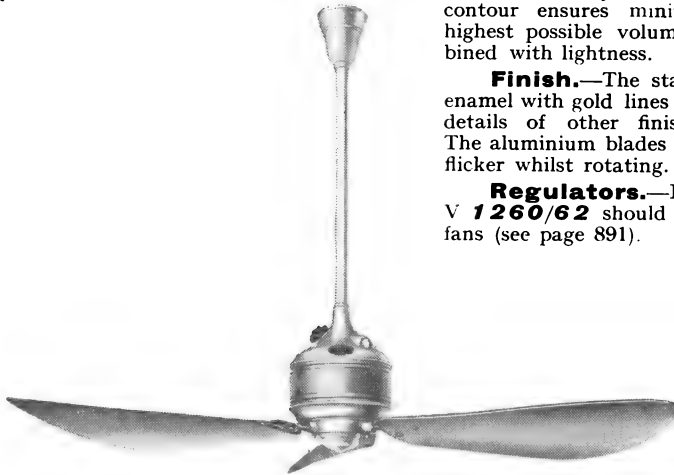
- (a) Automatic lubrication, which reduces friction losses to a minimum.
- (b) Perfect balance and liberal mechanical design.

**Motor.**—The motor is of the four-pole series-wound drip-proof type, fitted with a ball thrust bearing running in an oil bath.

**Blades.**—The blades are made of high quality aluminium sheet and formed under pressure into a definite contour which has been determined by exhaustive research. This contour ensures minimum slip and the highest possible volumetric efficiency combined with lightness.

**Finish.**—The standard finish is white enamel with gold lines and nickel plate (for details of other finishes see page 859). The aluminium blades are frosted to prevent flicker whilst rotating.

**Regulators.**—Regulators, Cat. Nos. V 1260/62 should be used with these fans (see page 891).



V 200/2/4/6/8

Full particulars of these fans are given on pages 879 and 880.

Cat. No.	Voltage.	Speed at mean volts.	Consumption at mean volts. watts.	Length of down rod.		Net weight (approx.).		Price each.		
		R.P.M.		ins.	cm.	lb.	kilos.	£	s.	d.
V 200	50	215	80	60	155	54½	24.7	9	0	0
V 202	100/110									
V 204	200/210									
V 206	220/230									
V 208	240/250									

#### SHIPPING PARTICULARS

Quantity per case.	Net weight.		Gross weight.		Cubic dimensions.		Price of case (per fan).			
	cwt.	qrs. lb.	kilos.	cwt.	qrs. lb.	kilos.	ft.	metres.	s.	d.
8	4	2 21	238	5	1 11	272	13	.37	3	1

When ordering please quote Catalogue Number and Voltage.

NOTE.—For Spare Parts Diagram see page 917 ; for Spare Parts Prices see page 929.

## CEILING FANS

### THE "MALAYA"

#### Direct Current

#### 3 CURVED BLADES, 56-inch (142-cm.) SWEEP

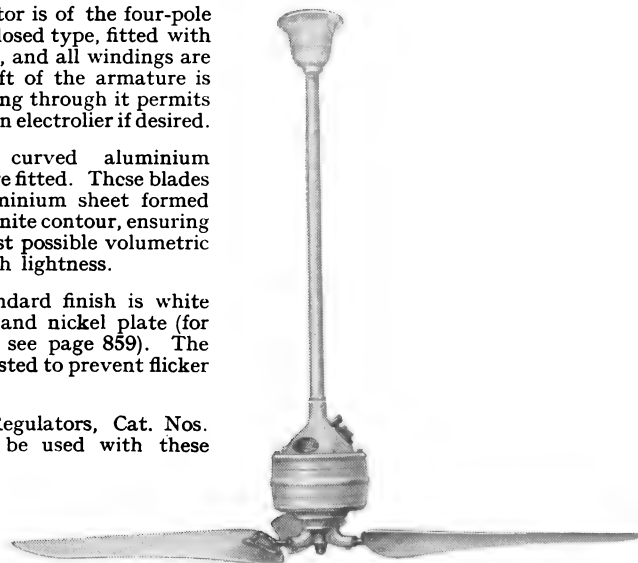
**General.**—The design of the MALAYA Fan renders it specially suitable for tropical conditions. Full particulars of these fans are given on pages 879-881.

**Motor.**—The motor is of the four-pole series-wound totally enclosed type, fitted with self-lubricating bearings, and all windings are impregnated. The shaft of the armature is hollow, and a tube passing through it permits the easy attachment of an electrolier if desired.

**Blades.**—Three curved aluminium blades, 56-inch sweep, are fitted. These blades are of high quality aluminium sheet formed under pressure into a definite contour, ensuring minimum slip and highest possible volumetric efficiency combined with lightness.

**Finish.**—The standard finish is white enamel with gold lines and nickel plate (for details of other finishes see page 859). The aluminium blades are frosted to prevent flicker while rotating.

**Regulators.**—Regulators, Cat. Nos. V 1260/62 should be used with these fans (see page 891).



V 210/2/4/6/8

Cat. No.	Voltage.	Speed at mean volts.	Consumption at mean volts. watts.	Length of down rod.		Net weight (approx.).		Price each.		
		R.P.M.		ins.	cm.	lb.	kilos.	£	s.	d.
V 210	50	220	70	60	155	49½	22.6	7	0	0
V 212	100/110									
V 214	200/210									
V 216	220/230									
V 218	240/250									

**Extra. ELECTROLIER** { Three lights without shades, holders or lamps } Prices on  
Four " " " " " " application.

#### SHIPPING PARTICULARS

Quantity per case.	Net weight.		Gross weight.		Cubic dimensions.		Price of case (per fan).			
	cwt.	qrs. lb.	kilos.	cwt.	qrs. lb.	kilos.	ft.	metres.	s.	d.
12	6	0 10	310	7	0 4	356	17	48	2	6

*When ordering please quote Catalogue Number and Voltage.*

**NOTE.**—For Spare Parts Diagram see page 918 ; for Spare Parts Prices see page 930.

## CEILING FANS

## THE "MALAYA JUNIOR"

## Direct Current

### 3 CURVED BLADES, 48-inch (122-cm.) SWEEP

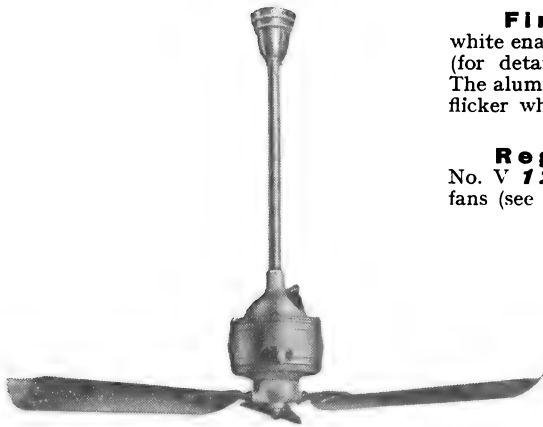
**General.**—The MALAYA JUNIOR Fan has been specially designed for use in tropical climates. Full particulars of these fans are given on pages 879 and 881.

**Motor.**—The motor is of the four-pole series-wound totally enclosed type, fitted with self-lubricating bearings, and all windings are impregnated. The shaft of the armature is hollow, and a tube passing through it permits the attachment of an electrolyser, if desired.

**Blades.**—Three curved aluminium blades, 48-inch sweep, are fitted. These blades are of high quality aluminium sheet formed under pressure into a definite contour, ensuring minimum slip and highest possible volumetric efficiency combined with lightness.

**Finish.**—The standard finish is white enamel with gold lines and nickel plate (for details of other finishes see page 859). The aluminium blades are frosted to prevent flicker while rotating.

**Regulators.**—Regulators, Cat. No. V **1260/2** should be used with these fans (see page 891).



**V 220/2/4/6/8**

Cat. No.	Voltage.	Speed at mean volts.	Consumption at mean volts.	Length of down rod.		Net weight (approx.).		Price each.		
		R.P.M.	watts.	ins.	cm.	lb.	kilos.	£	s.	d.
V <b>220</b>	50	} 220	50	60	155	49½	22.5	<b>6</b>	<b>18</b>	<b>0</b>
V <b>222</b>	100/110									
V <b>224</b>	200/210									
V <b>226</b>	220/230									
V <b>228</b>	240/250									

**Extra.** ELECTROLIER { Three lights without shades, holders or lamps } Prices on  
Four " " " " " application.

## SHIPPING PARTICULARS

Quantity per case.	Net weight.		Gross weight.		Cubic dimensions.		Price of case (per fan).			
	cwt.	qrs. lb.	kilos.	cwt.	qrs. lb.	kilos.	ft.	metres.	s.	d.
12	5	3 5	295	6	2 0	330	17	48	2	5

*When ordering please quote Catalogue Number and Voltage.*

*NOTE.—For Spare Parts Diagram see page 918 ; for Spare Parts Prices see page 930.*

## CEILING FANS

### THE "KINGSWAY"

**Alternating Current      Single Phase**

**3 CURVED BLADES, 56-inch (142-cm.) SWEEP**

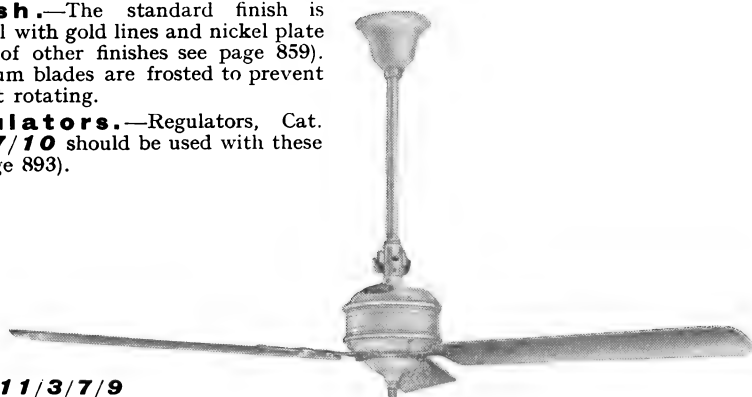
**General.**—The KINGSWAY Fan is specially suitable for use in tropical climates and is designed to give a distributed breeze over a wide area. It is practically noiseless. If desired, an electrolier, which can be used independently of the fan, can be fitted. Full particulars of these fans are given on pages 879, 882 and 883.

**Motor.**—Self-starting induction type, totally enclosed; fitted with ball thrust bearing running in grease and automatic lubrication, ensuring low current consumption. The windings are specially insulated.

**Blades.**—The blades are made of high quality aluminium sheet and formed under pressure into a definite contour, which has been determined by exhaustive research. This contour ensures minimum slip and the highest possible volumetric efficiency combined with lightness.

**Finish.**—The standard finish is white enamel with gold lines and nickel plate (for details of other finishes see page 859). The aluminium blades are frosted to prevent flicker whilst rotating.

**Regulators.**—Regulators, Cat. Nos. V **407/10** should be used with these fans (see page 893).



V **211/3/7/9**

Cat. No.	Voltage.	Phase.	*Frequency	Speed at mean volts.	Consumption at mean volts.	Length of down rod.		Net weight (approx.).		Price each.		
			cycles	R.P.M.	watts.	ins.	cm.	lb.	kilos.	£	s.	d.
V <b>211</b>	100/110	} Single	50	205	125	60	155	40½	18.5	<b>6</b>	<b>10</b>	<b>0</b>
V <b>213</b>	200/210											
V <b>217</b>	220/230											
V <b>219</b>	240/250											

\*KINGSWAY Fans for use on 40 or 60 cycle systems will be wound specially to order at 15% extra.

Extra. ELECTROLIER { Three lights without shades, holders or lamps } Prices on application.  
 { Four " " " " " " }

### SHIPPING PARTICULARS

Quantity per case.	Net weight.		Gross weight.		Cubic dimensions.		Price of case (per fan).
	cwt. qrs. lb.	kilos.	cwt. qrs. lb.	kilos.	ft.	metres.	
12	4 3 11	247	5 1 3	267	15	.42	<b>2 2</b>

These fans can also be packed in cases of 24, when the weights and dimensions will be approximately double those given above.

*When ordering please quote Catalogue Number, Voltage and Frequency.*

*NOTE.—For Spare Parts Diagram see page 919; for Spare Parts Prices see page 930.*



# CEILING FANS

## THE "KINGSWAY JUNIOR"

**Alternating Current      Single Phase**

**3 CURVED BLADES, 44-inch (112-cm.) SWEEP**

**General.**—The KINGSWAY JUNIOR Fan is specially suitable for use in tropical climates and is designed to give a distributed breeze over a wide area. It is practically noiseless. Full particulars of these fans are given on pages 879, 882 and 883.

**Motor.**—Self-starting induction type, totally enclosed; fitted with ball thrust bearing and automatic lubrication, ensuring low current consumption. The windings are specially insulated.

**Blades.**—The blades are made of high quality aluminium sheet and formed under pressure into a definite contour, which has been determined by exhaustive research. This contour ensures minimum slip and the highest possible volumetric efficiency combined with lightness.

**Finish.**—The standard finish is white enamel with gold lines and nickel plate (for details of other finishes see page 859). The aluminium blades are frosted to prevent flicker whilst rotating.



**Regulators.**—Regulators of the resistance pattern, similar to Cat. Nos. V **1260/2** (see page 891) should be used with these fans. Price **14s. 0d.** each.

**V 221/3/7/9**

Cat. No.	Voltage.	Phase.	*Fro- quency	Speed at mean volts.	Consump- tion at mean volts.	Length of down rod.		Net weight (approx.).		Price each.		
			cycles	R.P.M	watts	ins.	cm	lb.	kilos	£	s.	d.
V <b>221</b>	100/110	} Single	50	320	90	60	155	33½	15.25	5	0	0
V <b>223</b>	200/210											
V <b>227</b>	220/230											
V <b>229</b>	240/250											

\*KINGSWAY JUNIOR Fans for use on 40 or 60 cycle systems will be wound specially to order at extra charge.

### SHIPPING PARTICULARS

Quantity per case.	Net weight.		Gross weight.		Cubic dimensions.		Price of case (per fan).	
	cwt. qrs. lb.	kilos.	cwt. qrs. lb.	kilos.	ft.	metres.	s.	d.
12	4 0 13	209	4 2 10	234	11	.31	1	9

*When ordering please quote Catalogue Number, Voltage and Frequency.*

*NOTE.—For Spare Parts Diagram see page 919; for Spare Parts Prices see page 931.*

## CEILING FANS

### THE "EVEREST"

**Alternating Current      Single Phase**

**3 CURVED BLADES, 58-Inch (147-cm.) SWEEP**

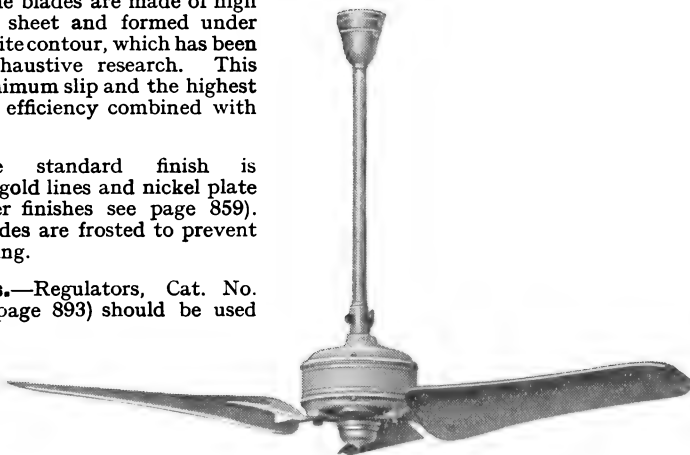
**General.**—The EVEREST Fan is specially suitable for use in tropical climates and is designed to give a distributed breeze over a wide area. It is practically noiseless. Full particulars of these fans are given on pages 879 and 884.

**Motor.**—Self-starting induction type, totally enclosed; fitted with ball thrust bearing running in an oil bath. Lubrication is entirely automatic, ensuring low current consumption. The windings are specially insulated.

**Blades.**—The blades are made of high quality aluminium sheet and formed under pressure into a definite contour, which has been determined by exhaustive research. This contour ensures minimum slip and the highest possible volumetric efficiency combined with lightness.

**Finish.**—The standard finish is white enamel with gold lines and nickel plate (for details of other finishes see page 859). The aluminium blades are frosted to prevent flicker whilst rotating.

**Regulators.**—Regulators, Cat. No. V 407/10, (see page 893) should be used with these fans.



V 201/3/7/9

Cat. No.	Voltage.	Phase.	*Frequency	Speed at mean volts.	Consumption at mean volts.	Length of down rod.		Net weight (approx.).		Price each.		
				cycles R.P.M.	watts.	ins.	cm.	lb.	kilos.	£	s.	d.
V 201	100/110	} Single	50	190	95	60	152	56	25.5	8	0	0
V 203	200/210											
V 207	220/230											
V 209	240/250											

\*EVEREST Fans for use on 40 or 60 cycle systems will be wound specially to order at extra charge.

### SHIPPING PARTICULARS

Quantity per case.	Net weight.		Gross weight.			Cubic dimensions.		Price of case (per fan).		
	cwt.	qrs. lb.	kilos.	cwt.	qrs. lb.	kilos.	ft.	metres.	s.	d.
8	4	3 8	245	5	0 23	265	16	45	3	3

*When ordering please quote Catalogue Number, Voltage and Frequency.*

*NOTE.—For Spare Parts Diagram see page 920; for Spare Parts Prices see page 931.*

## FAN SPEED REGULATORS

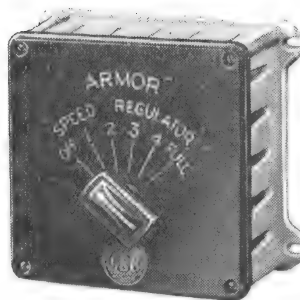
### Direct and Alternating Current.

Table and bracket fans can generally be placed so that the regulator contained in the base of the fan (see page 860) is easily accessible, but ceiling fans, which are in more or less inaccessible positions, require a regulator mounted on the wall or in a similar convenient position. Particular care has been given to the manufacture of MAGNET Fan Regulators, which are small and of a neat design. Ample ventilation is provided so that the regulator does not become excessively hot.

Special types of regulators are used for the KINGSWAY JUNIOR Ceiling Fans and for the 16-inch Railway Type Fans; full particulars of these are given on pages 889 and 878 respectively.

### ARMOR PATTERN

#### Direct Current



**V 1260/2**

ARMOR Speed Regulators are suitable for fans and small motors. Each is enclosed in a white enamelled iron case, which is freely ventilated. All the live parts are entirely enclosed, and the switch panel and handle are made of brown moulded Bakelite, which is suitable for withstanding tropical conditions. A resistance reduces the pressure across the motor terminals; the resistance is built up with interchangeable units which can easily be replaced should occasion arise. The switch has five speeds and an "off" position.

Cat. No.	Total resistance.	Dimensions.		Net weight (approx.).			Price each.	
		ins.	mm.	lb.	oz.	kilos.	s.	d.
V 1260	ohms. 200	} $6\frac{1}{4} \times 5\frac{1}{4} \times 3^*$	$159 \times 135 \times 78^*$	4	12	2.1	14	0
V 1261	600							
V 1262	1200							

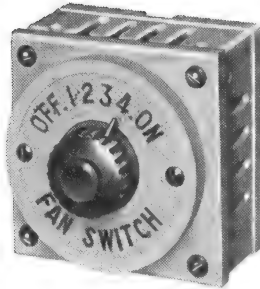
*\*Depth of case; handle extends 1 in. from case.*



## FAN SPEED REGULATORS

**Direct Current—Small Pattern**

**For 24-inch and 36-inch CEILING FANS**



**V 1251/2**

The Small Pattern Regulator is specially designed for use in situations where space is limited. All dimensions have been reduced to the lowest possible compatible with durability and satisfactory manipulation. Four intermediate speeds, full "on" and "off" positions are provided, and a definite locating action is fitted for each stop. Resistance units are built up on mica formers and enclosed in a ventilated cast-iron case. The switch has a metal cover which encloses all live parts and also forms the index plate. The finish is white and gold.

In order to satisfy the requirements of contractors who desire to run lead covered cable right into the switchbox, this regulator is provided with a rim  $\frac{5}{16}$  in. deep round the bottom of the box, forming a skirt having a gateway at top and bottom to admit a 3/.029 twin core cable.

Once the regulator is installed there is no necessity to remove the box when replacements are required, as a terminal block is provided in the box and spring contacts to the switch base.

Cat. No.	Total resistance.	Dimensions.		Net weight (approx.).			Price each.	
		ins.	mm.	lb.	oz.	kilos.	s.	d.
V 1251	ohms. 240	} $4 \times 4 \times 3\frac{1}{4}$ *	$102 \times 102 \times 83$ *	1	12	0.8	19	0
V 1252	600							

\*Depth of case ; handle extends  $\frac{5}{16}$  in. from case.

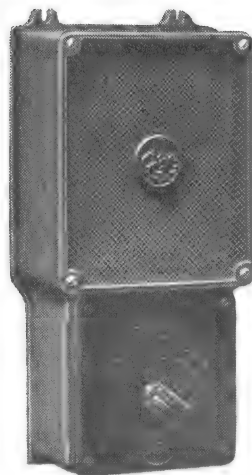
## FAN SPEED REGULATORS

### Alternating Current

Speed Regulators for Alternating Current Fans are enclosed in a white enamelled iron case, which is freely ventilated. All live parts are entirely enclosed, and the switch panel is made of brown moulded Bakelite, which is suitable for withstanding tropical conditions.

The switch has twelve stops and an "off" position, and all metal parts are of brass and phosphor bronze. The switch arm is definitely locked in each position and is supported on an insulated stud when moving from one contact to the next. The choking coil is of the closed iron circuit type, the voltage variation being obtained by means of tappings. The windings are former wound with double cotton-covered copper wire, being insulated and taped before assembling on the cores. The cores are then filled in and the complete choke is then vacuum impregnated.

The switch panel, if used with a condenser, is provided with terminals to enable the latter to be connected across the motor for improving the power factor. The condenser is securely clamped in a light white enamelled cast-iron case, and the complete regulator is noiseless in operation. The regulator and condenser can be supplied together (as illustrated) or as separate units.



V 1444/7

Regulator with condenser.

### Speed regulators without condensers\*

Cat. No.	Voltage.	Frequency.	Dimensions.	Net weight (approx.).		Price each.		
		cycles.	ins.	lb. oz.	kilos.	£	s.	d.
V 407	100/110	50	$4\frac{1}{2} \times 5\frac{1}{4} \times 3\frac{3}{4}$	5 8	2.5	1	2	6
V 408	200/210							
V 409	220/230							
V 410	240/250							

\*Condensers in white enamelled C.I. boxes with lids, for use with these regulators,

Price £1 7 0

### Speed regulators with condensers

Cat. No.	Voltage.	Frequency.	Dimensions.	Net weight (approx.).		Price each.		
		cycles.	ins.	lb. oz.	kilos.	£	s.	d.
V 1444	100/110	50	$13 \times 7 \times 4\frac{1}{4}$	11 8	5.25	2	9	6
V 1445	200/210							
V 1446	220/230							
V 1447	240/250							

### SHIPPING PARTICULARS

Description.	Quantity per case.	Net weight.		Gross weight.		Cubic dimensions.		Price of case (per dozen regulators).	
		cwt. qrs. lb.	kilos.	cwt. qrs. lb.	kilos.	ft.	metres.	s.	d.
Regulators only ..	120	5 2 12	285	6 0 24	316	15	.42	2	6
Regulators with condensers..	60	6 0 18	313	6 3 4	344	17½	.49	5	9

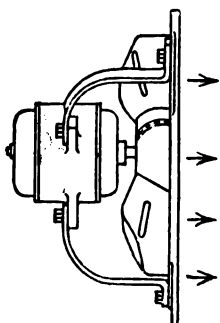
## EXHAUST FANS

G.E.C. exhaust fans are robust in construction and efficient in operation. They are specially recommended for theatres, cinemas, ballrooms, kitchens, laundries, paint-spraying shops, etc., where they provide efficient ventilation at low cost.

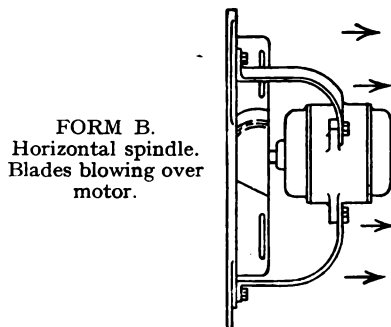
Some of the most important considerations in the selection and installation of exhaust fans are given on pages 895 to 900. No attempt has been made to cover the ground completely as the services of G.E.C. engineers are at the disposal of enquirers, and their experience is always available to assist in the solution of particular problems.

### Forms of running

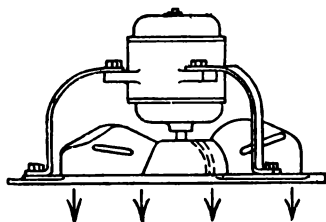
G.E.C. exhaust fans with either four-way propeller or box blades can be arranged for six forms of running, particulars of which are given below.



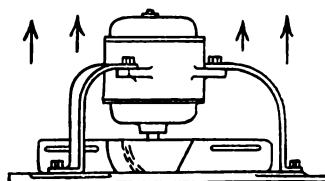
FORM A.  
Standard.  
Horizontal spindle.  
Blades blowing away  
from motor.



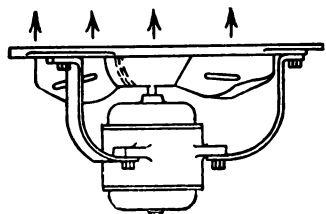
FORM B.  
Horizontal spindle.  
Blades blowing over  
motor.



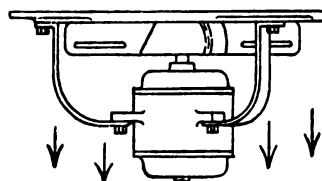
FORM C.  
Vertical spindle.  
Blades blowing away from motor.



FORM D.  
Vertical spindle.  
Blades blowing over motor.



FORM E.  
Vertical spindle.  
Blades blowing away from motor.



FORM F.  
Vertical spindle.  
Blades blowing over motor.

Fans with reversible propeller blades can be supplied at extra cost. These blades are so made that when rotating in an anti-clockwise direction they run as forms A, C or E, and when rotating in a clockwise direction they run as forms B, D or F. The direction of rotation is given when looking at the face of the blades with the motor behind.

## EXHAUST FANS

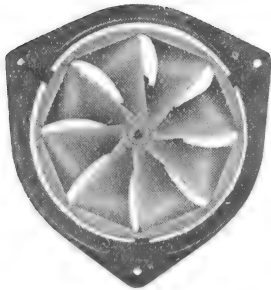
### Direct and Alternating Current

The standard commercial fan has a very wide field of application and its voltage range is normally  $\pm 5$  per cent. so that in ordinary cases, such as factories, a specially designed fan is not required.

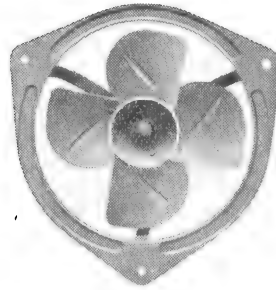
Both lighting and power circuits are generally available, whether the supply is A.C. or D.C.

**Alternating Current.**—A.C. lighting circuits are always single phase (one phase and neutral on a three-phase four-wire system); power circuits may be single phase or three phase. Three-phase fan motors, even down to 12-inch diameter fans, give a much better performance than single-phase motors, though the additional cable necessary makes the wiring slightly more expensive. A.C. exhaust fans should, therefore, be connected to a three-phase power circuit if it is available.

**Direct Current.**—D.C. lighting circuits are usually run at low voltages up to 250 volts; power circuits may be 400 volts and upwards. On high voltages D.C. fan motors are more expensive to manufacture, due to the special precautions that must be taken with the commutators and the brush gear. Exhaust fans should, therefore, where possible, be connected to lighting or low voltage circuits on D.C. supply.



Box blades.



Four-way propeller blades.

### Types of Blades

**Box Blades.**—These blades operate fairly silently at slow speeds when the volume of air handled is relatively small and the intake and discharge are free from obstruction; when viewed axially they almost fill up the opening in the fan ring. Box blades should never be specified for high speed fans or where there is any resistance to the air stream due to duct work, trunking, etc.

**Four-way Propeller Blades.**—These blades give a heavy air displacement compared to other designs at the same speeds; owing to their robust construction they are very suitable for high speed work, and at medium and low speeds they are extremely silent in action. Four-way propeller blades can also handle large volumes of air efficiently against considerable resistance to the air stream on intake or discharge, such as may be set up by trunking and bends, restricted airways, grilles, guards, filters, etc. Fans thus equipped can often be used instead of centrifugal fans, considerably reducing the initial cost, current consumption and space occupied. Further details can be obtained on application.

**Reversible Blades.**—These incorporate all the features of the four-way propeller blade, with the additional advantage of being able to run in either direction, either blowing air over the motor or away from it—forms A and B (page 894). The direction of rotation can be controlled by a simple reversing switch.

## EXHAUST FANS

### SIZES FOR VARIOUS SITUATIONS

The correct size of fan generally depends on the size of the room to be ventilated and the number of times per hour that the air should be changed, a general guide to which is given in the following table. It is advisable to use a factor of safety of 25 per cent., i.e., to add 25 per cent. to the calculated figure.

	Changes per hour.		Changes per hour.
Private Offices .. .. .	4	Lavatories .. .. .	10-15
Public Waiting-Rooms .. .. .	4	Restaurants, small .. .. .	10-15
Ballrooms, large .. .. .	5	Cinemas and Theatres* .. .. .	10-15
Public Halls, large* .. .. .	5	Kitchens, large .. .. .	15
General Offices .. .. .	6-8	Kitchens, small .. .. .	15-20
Ballrooms, small .. .. .	8	Engine Rooms .. .. .	20
Works, general .. .. .	8-10	Laundries .. .. .	20-30
Restaurants, large .. .. .	8-10	Rooms with Noxious Fumes .. .. .	30-40
Public Halls, small* .. .. .	10		

\*If smoking is allowed, these figures can be safely doubled, up to an equivalent of 1,000 cubic feet per person per hour.

As an example, a room 35 feet long by 25 feet wide by 15 feet high is used by day as a restaurant and in the evening as a meeting hall.

Cubic capacity of the room =  $35 \times 25 \times 15 = 13,125$  cubic feet.

From the above table it will be sufficient to provide 12 changes of air per hour, i.e., an air displacement of  $13,125 \times 12 = 157,500$  cubic feet per hour, or, allowing a factor of safety of 25 per cent,

$$\frac{157,500 \times 5}{4} = 196,875 \text{ cu. ft. per hour} = 3,280 \text{ cu. ft. per min.}$$

### Special Conditions of Working

For particular applications, such as where the fans are required to have an abnormal degree of regulation, to work in high air temperatures (100° F. and above), or to be exposed to rain, special designs may be necessary, full particulars of which will be supplied on application. Points to be noted in some other special circumstances are given below and on the following page.

*Working in Disused Chimneys.*—The output of fans working in disused chimneys will, of course, be reduced according to the size and height of the chimney, and these dimensions must be taken into account in calculating the size of the fan.

*Working Against Water Gauge.*—When working against water gauge standard speed fans are generally unsuitable, as the volume of air delivered may be reduced by as much as 50 per cent. For duties up to  $\frac{1}{4}$ -inch static water gauge the standard speed fan may be supplied, but up to  $\frac{1}{2}$ -inch s.w.g. fans of standard construction but high speed are necessary. For duties up to 1-inch s.w.g. blades of special construction with heavy gauge wings, oversize shafts, etc., are necessary ; particulars will be given on application.

(continued on following page)



## EXHAUST FANS

### Special Conditions of Working—continued

*Working in Ducts.*—Specially chosen or designed exhaust fans can be arranged to work in ducts satisfactorily, provided the duct is of suitable section or area, and the inside radius of the bends is not less than one diameter, preferably two diameters or greater. The effect of putting a standard fan to work in a duct is to reduce the volume of air it can handle on free intake and discharge, e.g., when fitted in the wall of a room. The reduction in capacity depends on the size and length of the duct and on the number, angle, and radius of the bends. From these figures the exact reduction can be accurately calculated, and, even if full details of the bends are not available, a reasonable approximation can be obtained. It is not sufficient to say that a duct of  $100 \times 2.54$  inches (1.76 square feet) area will be satisfactory for an 18-inch fan, whose area is 1.75 square feet; the section of the duct must approximate as nearly as possible to a square or must be circular.

*Working Against Prevailing Winds.*—Exhaust fans should never be fixed to face the prevailing wind if another site is available. As an example, an 18-inch four-way propeller fan running at 700 r.p.m. delivers 2,360 cubic feet of air per minute, so that the speed of the air will be

$$\frac{2360}{\text{area of fan}} = \frac{2360}{\left(\frac{18}{12}\right)^2 \times \frac{3 \cdot 1412}{4}} = \frac{2360}{1.76} = 1340 \text{ feet per minute} = \frac{1340 \times 60}{1760 \times 3} = \frac{15.2}{\text{hour}} \text{ miles per hour}$$

It will be seen that if the fan is facing a prevailing wind that may reach 30 or 40 miles per hour, it will be unable to maintain anything like its specified output.

*Silent Operation.*—In cinemas, churches, masonic halls, public meeting halls, board rooms, card rooms, offices, etc., silence may play a very important part and this should be stated when ordering so as to enable a specially quiet fan to be picked or a large diameter slow speed model to be put forward. It is impossible to obtain absolute silence with any type of exhaust fan moving a considerable volume of air, as even if all mechanical and electrical noises are eliminated the noise due to the air movement ("air rustle") remains. Air rustle can, however, be made almost inaudible if the fan is suitably chosen and installed.

The size should be chosen to deliver the required volume of air at standard speed or at slower speeds, which can be obtained either by a special design or by using a regulator with a standard fan.

Four-way propeller blades are recommended. It will be seen from the illustration on page 895 that most of the weight of the blades is at the centre, which takes the form of a machined cone, and the construction is extremely rigid, ensuring the utmost silence on either d.c. or a.c. supply. Box blades should be avoided; most of their weight is distributed at the circumference, so that accurate balancing is extremely difficult and any slight out-of-balance is considerably magnified (especially on an a.c. supply), setting up a pulsating magnetic note.

*The Fan Department of the G.E.C. will always be pleased to advise on the selection and the best method of installation of exhaust fans to suit any particular situation and special conditions.*

## EXHAUST FANS

### METHODS OF INSTALLATION

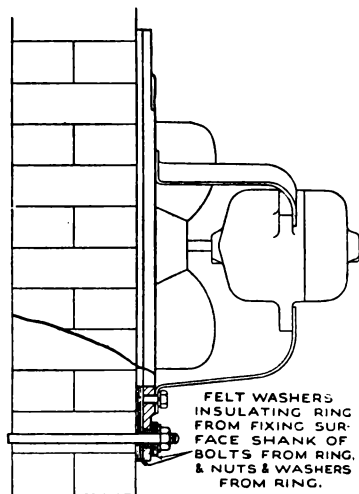
The position in which an exhaust fan should be installed requires very careful consideration. Among the factors that have to be taken into account are the possibility of setting up draughts and blocking out light, the accessibility of the fan, the suitability of the fixing surface, and the direction of the prevailing winds. A fan should never be placed close to an opening window, which will nullify the withdrawal of air from other adjacent spaces and thus defeat the primary object of the installation.

#### Accessibility

Like all mechanical devices, fans require occasional attention, and accessibility should therefore be studied.

#### Partitions

Fans should not be fixed on partitions if an alternative position is available, as such partitions act as sounding-boards, transmitting and magnifying every little sound.



Method of mounting exhaust fan for silent operation.

#### Windows

Where it can be avoided, fans should not be fixed in windows. If the top or part of a window is boarded off, a sound-board effect is again produced. In addition, the lower half can be opened (though this can be guarded against), and there is almost invariably an adjacent open window. The result is that the fan will draw much of the air in through the window and out through the fan; while this ventilates one section of the room the remainder is not affected, and the fan is only doing what the window could almost do by itself.

#### Ceilings

Fans can be arranged to blow up through ceilings satisfactorily provided the space above gives a free outlet for the air. It is useless to extract air from a room and blow it into a loft that has no outlet; the loft fills in a few minutes, and the fan becomes valueless.

#### Working In Disused Chimneys

In disused chimneys the fan can be fixed either in the flue or on the chimney breast. If the fan is placed in the chimney breast a deflector piece must be fitted to guide the air from the horizontal to the vertical direction (see also note on page 896).

#### Working against Water Gauge

The method of mounting when working against water gauge should be carefully considered. Wherever possible the fan chamber method should be chosen as it eliminates any risk of overloading the motor should the water gauge be greater than was anticipated; alternatively, the ring method may be adopted. Details of fan chamber mounting will be supplied on application.

*(continued on following page)*

## **EXHAUST FANS**

### **Methods of Installation—*continued.***

#### **Working in Ducts**

Ducts should preferably be round and of the same size as the fan runner. If rectangular ducts are used they should be as nearly square as possible; a "transformation" or connecting piece with an angle of slope not exceeding 15° will be necessary to connect the round section of the fan chamber (or the ring) to the square section of the duct. If possible the fan should be arranged to draw the air through the duct and not below it, and it should be mounted with the blade inside the duct and the motor nearest the open end, i.e., forms of running B, D or F should be used (see page 894).

#### **Working against Prevailing Winds**

If it is necessary to fit a fan on an exposed wall it should be provided with either a back draught shutter or an elbow bend to direct the stream of air downwards. Suitable types of shutters and elbow bends are described in pages 900-901.

#### **Silent Operation**

Where silent operation is required a suitable fixing surface is essential, as otherwise the noise due to the rotating mass may be magnified in the same way as that of a tuning fork when placed on a sounding board.

The fixing surface should preferably be of brick or stone of substantial thickness. The following precautions should be observed, particularly if the fan has to be mounted on a wooden partition or a metal girder (see illustration on previous page) :—

- (a) Felt pads (preferably piano felt) should be placed between the face of the fan ring and the fixing surface; the pad should be  $\frac{1}{4}$  inch thick for 9-inch and 12-inch fans, and suitably thicker for the larger sizes.
- (b) Felt sleeves should be placed over shanks of the fixing bolts, where they pass through the fan ring, so that there is no metallic contact between the ring and the bolt; black adhesive tape can be used as a substitute, but is not so satisfactory.
- (c) Felt washers (of the same thickness as the pads) should be placed over the bolt before the metal washer and nut are applied; complete sets of felt pads can be supplied for all sizes. Prices on application.
- (d) The nut should only be tightened sufficiently to fix the fan securely, as the effects of the felt pads and washers will be nullified if they are compressed by screwing down the nut too tightly.
- (e) A split washer and lock nut are advisable, as the resilience of the seating prevents the normal back pressure on the nut.

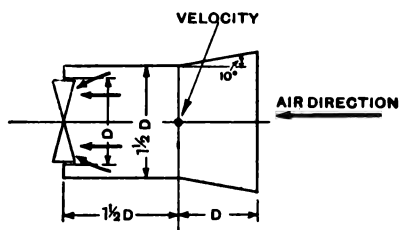
In addition, a regulator should always be installed. In designing a fan for silent running the narrow limits available make it very difficult to obtain precisely the correct relationship between the motor windings and the supply voltage. The first step of a regulator will usually correct this slight inexactitude. The output can, of course, be reduced further, as required.

## EXHAUST FANS

### MEASUREMENT OF AIR DISPLACEMENT

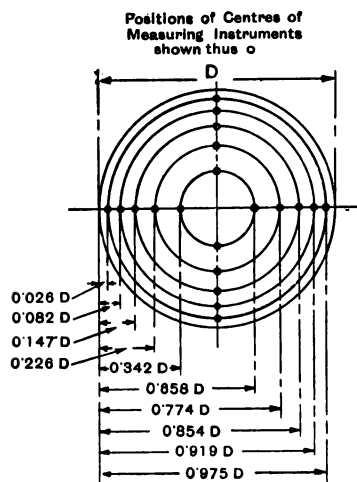
*Approved by the Fan Standardization Committee of the Institution of Heating and Ventilating Engineers.*

In view of the exaggerated figures of air displacement that are claimed for many blades, great attention has been paid to the compilation of correct air-displacement figures in this catalogue. To achieve this, the G.E.C. has based its methods of testing air displacements on those specified in the Report of the Fan Standardization Committee appointed by the Institution of Heating and Ventilating Engineers, a method of test that has been universally adopted by the Admiralty, the National Physical Laboratory, H.M. Office of Works, and large concerns interested in the manufacture of ventilating equipment.



D = diameter of opening in which blade or runner revolves.

This method is briefly as follows (fuller details are given in the Report of the Fan Standardization Committee, Section IV., pages 11 and 12, which may be obtained post free for 2s. 6d.). A trunk with dimensions as in the illustration (above) is required, and readings are taken by means of a pitot tube in conjunction with a suitable manometer at the positions indicated in the right-hand illustration. Readings are taken at 10 horizontal and 10 vertical positions, and from these the volume of air in cubic feet per minute can be calculated.



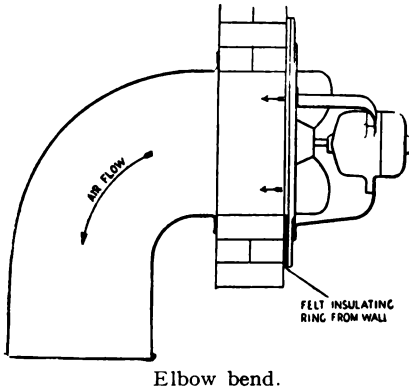
### BACK-DRAUGHT SHUTTERS

Suitable shutters should be used with exhaust fans to prevent back draught when the fan is not working, and also to prevent overloading of the fan motor on sites exposed to prevailing winds. Either louvre shutters (automatic or hand operated) or automatic butterfly shutters may be used, according to the particular installation; the butterfly type is preferable for fans fixed on exposed walls. The shutters consist of aluminium sheet louvres or light sheet steel wings (in the butterfly type), mounted in a circular casing of light steel plate. Automatic shutters close under gravity, the wings in the butterfly type being set slightly out of plumb. Hand-operated shutters are kept shut by means of a spring; the louvres are opened by simply pulling a cord. In all cases three lugs or a flange are provided to allow for easy fixing. For 24-inch fans and upwards the shutters are provided with four fixing lugs, but these do not correspond with the fixing centres on the fan ring.

*(continued on following page)*

## EXHAUST FANS

### Back-Draught Shutters—continued.



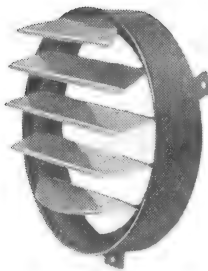
Elbow bend.

Alternatively, elbow bends may be used with the advantage that they do not interfere with the air extraction. Elbow bends must, however, be specially designed for the purpose, as an ordinary bend may cause back pressure on the fan, overloading the motor and ultimately burning it out in the same way as a strong wind; prices of suitable bends are available on application.

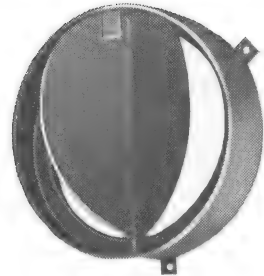
*Louvre Type (Automatic or Hand Operated).*—These shutters are of rigid construction, the drum portion (sizes 9-inch to 18-inch) being made of 24 s.w.g. and the larger sizes of 22 s.w.g. galvanized sheet

steel, ribbed and strengthened where required. The louvres are of 26 and 24 s.w.g. aluminium respectively.

*Butterfly Type.*—These shutters are constructed on the same robust lines as the louvre type. Both the drum and the wings are made of galvanized sheet steel of suitable gauge.



Louvre Type  
(automatic)  
V 1671 / 8



Butterfly Type  
(automatic).  
V 1641/6

### AUTOMATIC LOUVRE TYPE

Cat. No.	Diameter of fan.		Net weight (approx.).		Price each.		
	ins.	cm.	lbs.	kilos.	£	s.	d.
V 1671	9	23	2	1		13	0
V 1672	12	30	3	1.36		13	0
V 1672A	15	38	5	2.26		17	0
V 1673	18	46	7	3.17	1	3	0
V 1674	24	60	12	5.44	1	10	0
V 1676	30	75	15	6.80	2	16	0
V 1678	36	90	17	7.71	3	12	0

### HAND-OPERATED LOUVRE TYPE

Cat. No.	Diameter of fan.		Net weight (approx.).		Price each.		
	ins.	cm.	lb.	kilos.	£	s.	d.
V 1661	9	23	2	1		18	0
V 1662	12	30	3	1.36		18	0
V 1662A	15	38	5	2.26	1	3	0
V 1663	18	46	7	3.17	1	12	0
V 1664	24	60	12	5.44	2	6	0
V 1665	30	75	15	6.80	3	16	0
V 1666	36	90	17	7.71	4	18	0

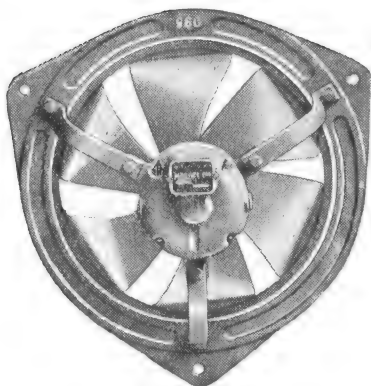
### AUTOMATIC BUTTERFLY TYPE

Cat. No.	Diameter of fan.		Net weight (approx.).		Price each.		
	ins.	cm.	lb.	kilos.	£	s.	d.
V 1641	9	23	2½	1.25		15	0
V 1642	12	30	3½	1.6		16	0
V 1642A	15	38	5	2.25	1	0	0
V 1643	18	46	6½	3	1	5	0
V 1644	24	60	13½	6.12	2	0	0
V 1645	30	75	26	11.34	3	4	0
V 1646	36	90	31	14	4	6	0

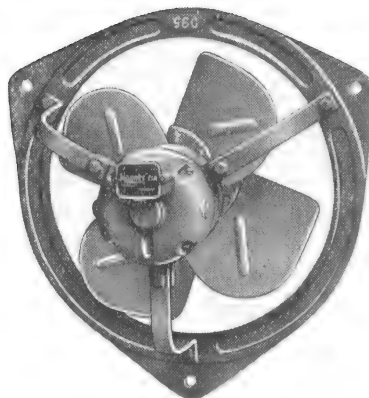
## EXHAUST FANS

**Direct Current 100/250 volts**

**FOUR-WAY AND BOX BLADES**



Box Blades



Four-way Blades

**Motor.**—Totally enclosed series-wound motor of ample dimensions is fitted. The construction is solid throughout.

**Slow Speed.**—Up to 30-inch inclusive, fitted with plain bearings ; 36-inch pattern and upwards, ball bearings.

**High Speed.**—All high speed fans are fitted with ball bearings, and are thus suitable for any form of running without thrust bearings.

**Regulator.**—Regulator semi-enclosed non-automatic, giving approximately 30 per cent. regulation, six speeds, and " off " position. Mounted in cast iron box with ventilated resistance.

Cat. No.	Size.	Speed.	Air displacement : cu. ft. per min. F.I.D.	Consumption.	Net weight of fan.	Price each.					
						Fan.			Regulator.		
		R.P.M.		watts.	lb.	£	s.	d.	£	s.	d.
V 1500A	ins. 9	*1350	570	45	17	5	5	0	} 1	4	0
		1500	640	40	15	5	10	0			
		*2650	1120	120	27	7	17	0			
V 1500	12	*1300	1300	80	36	5	10	0	} 1	4	0
		1450	1000	70	34	5	13	0			
		*2700	2700	380	45	10	11	0			
V 1501	15	*950	1860	100	40	6	0	0	} 1	5	0
		1050	1400	80	37	6	4	0			
		*1400	2740	200	49	8	10	0			
		1450	1950	125	46	9	4	0			

**\* Four-way Blades**

*For larger sizes see next page. For dimensions see page 904.*

# EXHAUST FANS

**Direct Current 100/250 volts**

## FOUR-WAY AND BOX BLADES

Cat. No.	Size.	Speed.	Air displacement: cu. ft. per min. F.I.D.	Consumption.	Net weight of fan.	Price each.	
						Fan.	Regulator.
<b>V 1502</b>	ins. 18	R.P.M.		watts.	lb.	£ s. d.	£ s. d.
		*690	2330	75	60	<b>7 7 0</b>	<b>1 9 0</b> On application
		720	1650	70	55	<b>7 16 0</b>	
		*900	3040	140	60	<b>8 16 0</b>	
		1000	2300	140	55	<b>9 19 0</b>	
<b>V 1504</b>	24	*540	4320	140	116	<b>11 18 0</b>	<b>1 10 0</b> On application
		625	3400	130	106	<b>13 6 0</b>	
		*700	5600	280	148	<b>17 18 0</b>	
		730	3950	220	138	<b>18 8 0</b>	
<b>V 1506</b>	30	*470	7350	280	184	<b>18 12 0</b>	<b>1 19 0</b> On application
		500	5400	260	172	<b>20 0 0</b>	
		*700	10900	750	201	<b>31 19 0</b>	
<b>V 1508</b>	36	*400	10800	360	218	<b>23 10 0</b>	<b>2 4 0</b> On application
		425	7900	340	193	<b>23 18 0</b>	
		*560	15100	900	347	<b>43 7 0</b>	
<b>V 1510</b>	42	*350	15000	530	460	<b>36 14 0</b>	<b>4 6 0</b>
		360	10600	480	420	<b>37 16 0</b>	<b>3 0 0</b>
		*470	20200	1050	620	<b>82 2 0</b>	—
<b>V 1512</b>	48	*300	19200	670	550	<b>47 18 0</b>	<b>5 2 0</b>
		310	13800	560	478	<b>49 6 0</b>	<b>4 14 0</b>
		*470	30000	1900	900	<b>98 4 0</b>	—
<b>V 1514</b>	54	*270	24600	1000	747	<b>70 3 0</b>	<b>5 5 0</b>
		275	17200	850	663	<b>71 19 0</b>	<b>5 2 0</b>
		*355	32300	1520	940	<b>107 2 0</b>	—
<b>V 1516</b>	60	*260	32500	1350	1084	<b>85 15 0</b>	<b>6 12 0</b>
		275	23700	1100	984	<b>87 18 0</b>	<b>5 5 0</b>
		*310	38800	1900	1244	<b>116 0 0</b>	—

### \*Four-way Blades.

For back-draught shutters see page 901. For dimensions see next page.

### EXTRAS

<b>Higher voltages</b> from 300 to 500 :—						£ s. d.
Slow Speed (Four-way Blades)	{	V 1500A	9-inch	..	..	Cannot be supplied
		V 1500	12-inch	..	..	<b>8 5 0</b>
		V 1501	15-inch	..	..	<b>9 1 0</b>
		V 1502	18-inch	..	..	<b>11 4 0</b>
		V 1504	24-inch	..	..	<b>10% extra</b>
High Speed	{	V 1506/16	30-inch to 60-inch	..	..	<b>5% extra</b>
		V 1501/16	15-inch to 60-inch	..	..	On application

**Slow Speed.** Thrust bearings are required for forms C, D, E and F on sizes from 9-inch to 30-inch—prices on application; alternatively ball bearings can be supplied at an extra price. For 36-inch and above, thrust bearings are not required as ball bearings are fitted as standard.

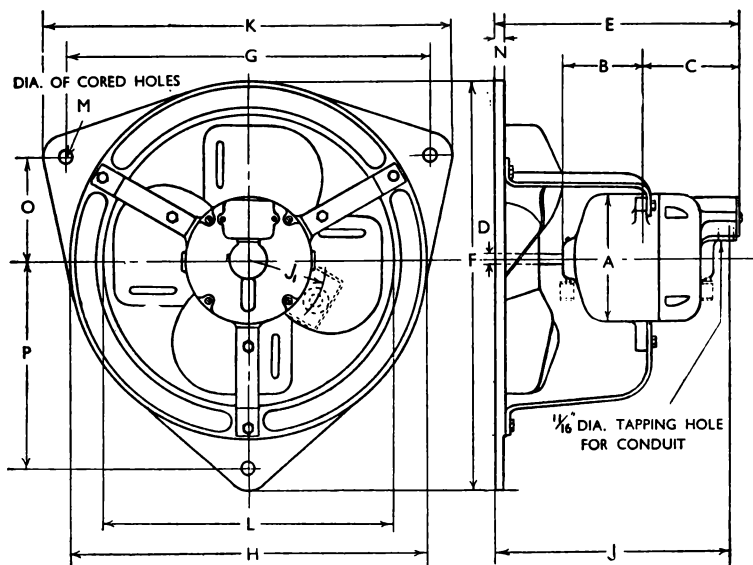
When ordering please quote Catalogue Number, Voltage, Speed and Form of Running (see page 894).

## EXHAUST FANS

Direct Current 100/250 volts

### FOUR-WAY AND BOX BLADES

### DIMENSIONS



Blade	A	B	C	D	E	F
ins.	ins.	ins.	ins.	ins.	ins.	ins.
9	4 $\frac{1}{8}$	2 $\frac{3}{16}$	2 $\frac{13}{16}$	$\frac{1}{2}$	7 $\frac{1}{4}$	13 $\frac{7}{8}$
12	5 $\frac{5}{8}$	3 $\frac{1}{2}$	4 $\frac{1}{16}$	$\frac{1}{2}$	10 $\frac{5}{8}$	18 $\frac{3}{8}$
15	5 $\frac{5}{8}$	3 $\frac{1}{2}$	4 $\frac{1}{16}$	$\frac{1}{2}$	10 $\frac{5}{8}$	21 $\frac{3}{8}$
18	6	4 $\frac{3}{8}$	5	$\frac{5}{8}$	12 $\frac{3}{4}$	24 $\frac{3}{4}$
24	7 $\frac{1}{2}$	2 $\frac{7}{8}$	7 $\frac{5}{8}$	$\frac{1}{2}$	15 $\frac{1}{8}$	32
30	9	4 $\frac{1}{8}$	6 $\frac{1}{2}$	$\frac{7}{8}$	18 $\frac{3}{8}$	38 $\frac{3}{8}$

Blade	A	B	C	D	E	F
ins.	ins.	ins.	ins.	ins.	ins.	ins.
36	9	4 $\frac{13}{16}$	6 $\frac{1}{8}$	1	19 $\frac{13}{16}$	45 $\frac{1}{4}$
42	9	5 $\frac{5}{8}$	8	1 $\frac{1}{8}$	23	53
48	11 $\frac{1}{4}$	5 $\frac{5}{8}$	10 $\frac{5}{8}$	1 $\frac{1}{4}$	29	60 $\frac{1}{8}$
54	16	9 $\frac{5}{8}$	12	1 $\frac{1}{4}$	34 $\frac{5}{8}$	65 $\frac{1}{8}$
60	18	10 $\frac{1}{2}$	12 $\frac{1}{2}$	1 $\frac{3}{8}$	36 $\frac{1}{8}$	71 $\frac{1}{2}$

Blade.	G	H	J	K	L
ins.	ins.	ins.	ins.	ins.	ins.
9	12 $\frac{1}{8}$	12 $\frac{1}{4}$	*	13 $\frac{3}{8}$	10 $\frac{1}{4}$
12	16 $\frac{1}{4}$	16	10 $\frac{1}{4}$	18 $\frac{1}{4}$	13
15	18 $\frac{5}{8}$	19 $\frac{1}{4}$	10 $\frac{5}{16}$	20 $\frac{3}{8}$	16 $\frac{1}{4}$
18	21 $\frac{1}{4}$	22 $\frac{1}{2}$	12 $\frac{3}{8}$	23 $\frac{1}{4}$	19 $\frac{3}{8}$
24	27 $\frac{1}{4}$	29 $\frac{1}{2}$	14 $\frac{1}{4}$	30 $\frac{1}{4}$	26
30	33 $\frac{3}{8}$	36	17 $\frac{9}{16}$	36 $\frac{1}{2}$	31 $\frac{7}{8}$

\*J<sub>1</sub> (9-in. only) = 2 $\frac{3}{8}$ -ins.

Blade.	G	H	J	K	L
ins.	ins.	ins.	ins.	ins.	ins.
36	39 $\frac{3}{4}$	42 $\frac{1}{2}$	19	42 $\frac{1}{4}$	37 $\frac{1}{4}$
42	46 $\frac{1}{4}$	49 $\frac{3}{4}$	9 $\frac{7}{8}$	49 $\frac{1}{4}$	44 $\frac{3}{8}$
48	52 $\frac{1}{2}$	56 $\frac{3}{8}$	13 $\frac{1}{4}$	55 $\frac{3}{8}$	50 $\frac{3}{8}$
54	55 $\frac{1}{2}$	62 $\frac{1}{2}$	13 $\frac{1}{2}$	59 $\frac{1}{2}$	56 $\frac{1}{2}$
60	62 $\frac{3}{8}$	68	14	65 $\frac{3}{8}$	62

Blade.	M	N	O	P	No. of lugs.
ins.	ins.	ins.	ins.	ins.	
9	$\frac{1}{2}$	$\frac{7}{16}$	3 $\frac{1}{2}$	7	3
12	$\frac{1}{2}$	$\frac{7}{16}$	4 $\frac{11}{16}$	9 $\frac{3}{8}$	3
15	$\frac{1}{2}$	$\frac{9}{16}$	5 $\frac{3}{8}$	10 $\frac{3}{8}$	3
18	$\frac{3}{4}$	$\frac{5}{8}$	6 $\frac{1}{8}$	12 $\frac{1}{4}$	3
24	$\frac{3}{4}$	1	7 $\frac{7}{8}$	15 $\frac{1}{4}$	3
30	$\frac{7}{8}$	1 $\frac{1}{8}$	9 $\frac{3}{8}$	19 $\frac{3}{8}$	3

Blade.	M	N	O	P	No. of lugs.
ins.	ins.	ins.	ins.	ins.	
36	1	1 $\frac{1}{8}$	11 $\frac{3}{8}$	22 $\frac{3}{8}$	3
42	1 $\frac{1}{8}$	1 $\frac{1}{8}$	13 $\frac{3}{8}$	26 $\frac{3}{4}$	3
48	1 $\frac{1}{8}$	1 $\frac{1}{8}$	15	30	3
54	1 $\frac{1}{8}$	1 $\frac{1}{8}$	16	31 $\frac{7}{8}$	3
60	1 $\frac{1}{8}$	1 $\frac{1}{4}$	18 $\frac{1}{8}$	36 $\frac{1}{4}$	3

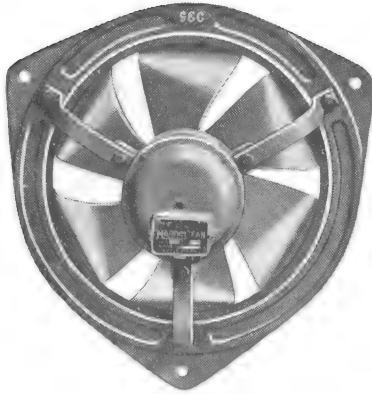
NOTE.—On 42-in. fans and upwards, the c.i. terminal box is not integral with the end casting.



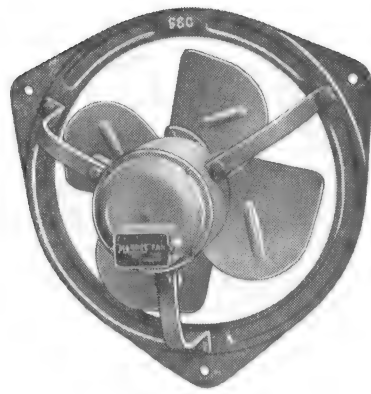
## EXHAUST FANS

Alternating Current 100/250 volts, 50 cycles, Single Phase

### FOUR-WAY AND BOX BLADES



Box Blades



Four-way Blades

**Motors. Slow Speed.**—9-inch to 15-inch fans inclusive are provided with totally enclosed, squirrel-cage, induction type motors, self starting and regulating pattern. The motors are fitted with ball bearings for any form of running and require single or double pole switch for starting.

18-inch to 60-inch fans inclusive, particulars of which are given on the following page, are fitted with totally enclosed ball bearing type motors, of the condenser design. These motors are self-starting by means of a single or double pole switch.

**Motors. High Speed.**—9-inch to 60-inch fans inclusive are provided with totally enclosed squirrel-cage induction type motors, fitted with ball bearings of the condenser pattern.

**Condenser Switch Box.**—Where fans are of the condenser pattern, on 18-inch to 36-inch, the prices include condenser switch box. On fan sizes 42-inch and upwards, and in the case of small fans on special voltages, etc., the standard switch box is unsuitable, and in these cases a separately mounted condenser will be supplied which does not incorporate any form of switch. The separately mounted condenser is included in the price.

Cat. No.	Size.	Speed at 50 cycles.	Air displace- ment : cu. ft. per min. F.T.D.	Consump- tion.	Net weight of fan.	Price each.						
						Fan.			Regulator.			
	ins.	R.P.M.		watts.	lb.	£	s.	d.	£	s.	d.	
V 1600A	9	*1350	570	65	18	5	4	0	}	1	10	0
		1400	410	60	16	6	8	0				
		*2700	1140	180	31	7	13	0				
V 1600	12	*1200	1200	130	39	6	17	0	}	1	11	0
		1250	860	110	37	7	10	0				
		*2700	2700	430	49	11	3	0				
V 1602	15	*820	1600	110	43	7	10	0	}	1	15	0
		860	1150	95	41	8	18	0				
		*1360	2660	250	53	10	11	0				
		1410	1880	220	51	11	14	0				

#### \* Four-way Blades

For sizes ranging from 18 inch to 60 inch see following page

## EXHAUST FANS

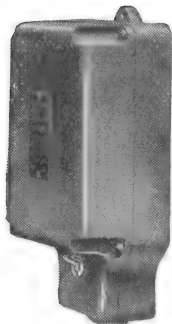
**Alternating Current 100/250 volts, 50 cycles, Single Phase**

### FOUR-WAY AND BOX BLADES

Cat. No.	Size.	Speed at 50 cycles.	Air displacement : cu. ft. per min. F.I.D.	Consumption.	Net weight of fan.	Price each.					
						Fan.			Regulator.		
		R.P.M.		watts.	lb.	£	s.	d.	£	s.	d.
V 1604	ins. 18	*690	2320	90	59	10	4	0	} 2	3	0
		700	1600	80	54	12	2	0			
		*890	3000	150	59	10	18	0			
		910	2080	130	54	12	12	0			
V 1606	24	*540	4310	170	121	15	16	0	} 2	18	0
		560	3050	150	114	17	9	0			
		*700	5600	270	121	20	0	0			
		720	3900	250	114	20	10	0			
V 1608	30	*460	7180	270	172	22	17	0	} 3	7	0
		470	5050	240	160	24	4	0			
		*700	10900	720	210	31	2	0			
V 1610	36	*400	10800	370	245	29	17	0	} 5	15	0
		410	7600	330	220	33	12	0			
		*570	15400	850	310	44	15	0			
V 1612	42	*330	14100	570	460	50	18	0		—	
		350	10300	510	420	52	3	0			
		*470	20200	1100	470	62	10	0			
V 1614	48	*300	19200	750	556	58	0	0		—	
		310	13800	650	484	59	10	0			
		*470	30100	2000	700	101	15	0			
V 1616	54	*270	24600	950	720	92	16	0		—	
		275	17200	800	640	95	2	0			
		*355	32300	1700	740	123	4	0			
V 1618	60	*270	33800	1550	960	109	15	0		—	
		280	24100	1300	860	113	10	0			
		*360	45000	2750	1064	142	16	0			

#### \* Four-way Blades.

For back-draught shutters see page 901. For dimensions see page 908.



Condenser Switch.

#### EXTRAS

**Higher voltages** from 300 to 500 :—

V 1600/6 9-inch to 24-inch

10% extra.

V 1608/18 30-inch to 60-inch

5% extra.

**Lower frequency—40 cycles :—**

V 1600/6 9-inch to 24-inch

.. No extra.

V 1608/18 30-inch to 60-inch

.. On application.

**Lower frequency—other than 40 cycles :—**

All sizes .. .. . On application.

**Higher frequency—above 50 cycles :—**

V 1600/6 9-inch to 24-inch

.. 10% extra.

V 1608/18 30-inch to 60-inch

.. On application.

**Thrust bearings** are not required for any form of running.

When ordering please quote Catalogue Number, Voltage, Frequency, Speed and Form of Running (see page 894).

## EXHAUST FANS

Alternating Current

100/500 volts, 40/60 cycles, Two and Three Phase

FOUR-WAY AND BOX BLADES

Cat. No.		Size.	Speed at 50 cycles.	Air displacement : cu. ft. per min. F.I.D.	Consumption.	Net weight of fan.	Price each.					
Two-phase.	Three-phase.						Fan.			Regulator.		
		ins.	R.P.M.		watts.	lb.	£	s.	d.	£	s.	d.
V 1680A	V 1620A	9	1400 1425 2650	590 420 1120	45 40 130	31 29 31	7	6	0	}	3	18 0
							7	9	0			
							7	17	0			
V 1680	V 1620	12	1300 910 2700	1300 910 2700	80 65 420	36 34 49	7	9	0	}	3	18 0
							8	1	0			
							10	7	0			
V 1682	V 1622	15	850 875 1380 1430	1660 1170 2690 1900	70 55 170 140	43 40 51 48	7	10	0	}	4	4 0
							8	18	0			
							9	18	0			
							11	2	0			
V 1684	V 1624	18	700 720 900 920	2360 1650 3040 2100	90 75 150 130	55 50 59 54	9	13	0	}	4	10 0
							11	1	0			
							10	18	0			
							12	12	0			
V 1686	V 1626	24	530 550 710 720	4240 3000 5680 3900	150 125 280 240	108 98 121 111	14	10	0	}	5	4 0
							16	0	0			
							18	8	0			
							19	2	0			
V 1688	V 1628	30	460 475 700	7190 5100 10900	300 250 700	133 121 172	18	2	0	}	5	10 0
							20	19	0			
							24	4	0			
							25	5	0			
V 1690	V 1630	36	400 410 560	10800 7600 15100	360 300 750	212 187 250	23	12	0	}	9	4 0
							25	11	0			
							32	6	0			
V 1692	V 1632	42	350 360 470	15000 10600 20200	580 500 1050	351 311 420	45	2	0			
							46	5	0			
							53	11	0			
V 1694	V 1634	48	300 310 470	19200 13800 30100	720 600 1900	510 438 520	52	13	0			
							54	0	0			
							61	12	0			
V 1696	V 1636	54	270 280 355	24600 17500 32300	860 730 1550	628 544 720	66	1	0			
							67	14	0			
							109	16	0			
V 1698	V 1638	60	270 280 360	33800 24100 45000	1400 1150 2500	893 793 1064	109	16	0			
							112	10	0			
							130	6	0			

Frequencies other than 40/60 cycles :—

V 1680A/90 and V 1620A/30 9-inch to 36-inch .. 10% extra.

V 1692/98 and V 1632/38 42-inch to 60-inch ..On application.

Thrust bearings are not required for any form of running.

For back-draught shutters see page 901. For dimensions see next page.

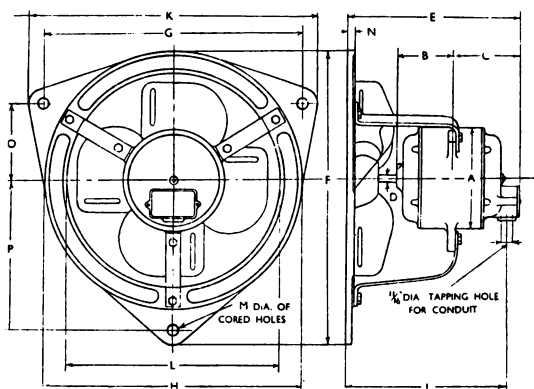
When ordering please quote Catalogue Number, Voltage, Frequency, Speed and Form of Running (see page 894).

## EXHAUST FANS

### Alternating Current

### FOUR-WAY AND BOX BLADES

### DIMENSIONS



Blade.	A		B		C		D	E		F	G
	1 ph.	3 ph.	1 ph.	3 ph.	1 ph.	3 ph.		1 ph.	3 ph.		
ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.
9	4 $\frac{1}{2}$	4 $\frac{1}{2}$	2 $\frac{13}{16}$	2 $\frac{13}{16}$	3 $\frac{11}{16}$	3 $\frac{11}{16}$	$\frac{3}{8}$	8 $\frac{11}{16}$	8 $\frac{11}{16}$	13 $\frac{7}{8}$	12 $\frac{1}{2}$
12	6 $\frac{1}{2}$	4 $\frac{1}{2}$	3 $\frac{7}{16}$	2 $\frac{13}{16}$	4 $\frac{1}{2}$	3 $\frac{11}{16}$	$\frac{1}{2}$	10 $\frac{1}{2}$	9 $\frac{3}{8}$	18 $\frac{3}{8}$	16 $\frac{1}{2}$
15	6 $\frac{1}{2}$	6 $\frac{1}{2}$	3 $\frac{7}{16}$	3 $\frac{7}{16}$	4 $\frac{1}{2}$	4 $\frac{1}{2}$	$\frac{1}{2}$	10 $\frac{1}{2}$	10 $\frac{1}{2}$	21 $\frac{3}{8}$	18 $\frac{3}{8}$
18	6 $\frac{13}{16}$	6 $\frac{13}{16}$	4 $\frac{1}{8}$	4 $\frac{1}{8}$	4 $\frac{13}{16}$	4 $\frac{13}{16}$	$\frac{5}{8}$	12 $\frac{5}{8}$	12 $\frac{5}{8}$	24 $\frac{3}{4}$	21 $\frac{1}{2}$
24	8 $\frac{1}{2}$	8 $\frac{1}{2}$	3 $\frac{5}{8}$	3 $\frac{5}{8}$	5	5	$\frac{3}{4}$	13 $\frac{13}{16}$	13 $\frac{13}{16}$	32	27 $\frac{1}{2}$
30	9 $\frac{1}{2}$	8 $\frac{1}{2}$	2 $\frac{5}{8}$	3 $\frac{5}{8}$	7 $\frac{1}{2}$	5	$\frac{7}{8}$	16 $\frac{1}{2}$	15 $\frac{1}{2}$	38 $\frac{3}{4}$	33 $\frac{3}{4}$

Blade.	H	J		K	L	M	N	O	P	No. of lugs.
		1 ph.	3 ph.							
ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	
9	12 $\frac{1}{2}$	8 $\frac{1}{2}$	8 $\frac{1}{2}$	13 $\frac{3}{8}$	10 $\frac{1}{4}$	$\frac{1}{2}$	7 $\frac{1}{8}$	3 $\frac{1}{2}$	7	3
12	16	10 $\frac{1}{16}$	8 $\frac{11}{16}$	18 $\frac{1}{2}$	13	$\frac{5}{8}$	$\frac{1}{2}$	4 $\frac{11}{16}$	9 $\frac{3}{8}$	3
15	19 $\frac{1}{2}$	10 $\frac{1}{16}$	10 $\frac{1}{16}$	20 $\frac{3}{8}$	16 $\frac{1}{2}$	$\frac{3}{4}$	7 $\frac{9}{16}$	5 $\frac{3}{8}$	10 $\frac{3}{8}$	3
18	22 $\frac{1}{2}$	11 $\frac{1}{16}$	11 $\frac{1}{16}$	23 $\frac{3}{8}$	19 $\frac{3}{8}$	$\frac{3}{4}$	$\frac{5}{8}$	6 $\frac{1}{8}$	12 $\frac{1}{2}$	3
24	29 $\frac{1}{2}$	13 $\frac{1}{8}$	13 $\frac{1}{8}$	30 $\frac{1}{2}$	26	$\frac{3}{4}$	1	7 $\frac{7}{8}$	15 $\frac{1}{2}$	3
30	36	16 $\frac{1}{8}$	15 $\frac{1}{16}$	36 $\frac{1}{2}$	31 $\frac{1}{2}$	$\frac{7}{8}$	1 $\frac{1}{8}$	9 $\frac{3}{8}$	19 $\frac{1}{2}$	3

Blade.	A		B		C		D	E		F	G
	1 ph.	3 ph.	1 ph.	3 ph.	1 ph.	3 ph.		1 ph.	3 ph.		
ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.
36	11	9 $\frac{5}{8}$	2 $\frac{1}{2}$	2 $\frac{3}{8}$	7	7 $\frac{1}{8}$	1	19	18 $\frac{7}{8}$	45 $\frac{1}{4}$	39 $\frac{7}{8}$
42	13 $\frac{3}{4}$	11	5 $\frac{3}{4}$	4 $\frac{7}{8}$	7 $\frac{1}{2}$	6	1 $\frac{1}{8}$	24 $\frac{1}{8}$	23 $\frac{5}{8}$	53	46 $\frac{1}{2}$
48	13 $\frac{3}{4}$	13 $\frac{3}{4}$	5 $\frac{3}{4}$	5 $\frac{3}{4}$	7 $\frac{1}{2}$	6 $\frac{1}{2}$	1 $\frac{1}{4}$	24 $\frac{1}{8}$	24 $\frac{1}{8}$	60 $\frac{1}{8}$	52 $\frac{1}{2}$
54	17 $\frac{3}{8}$	13 $\frac{3}{4}$	7 $\frac{9}{16}$	5 $\frac{3}{4}$	9 $\frac{1}{16}$	6 $\frac{1}{4}$	1 $\frac{3}{8}$	29 $\frac{3}{8}$	27	65 $\frac{1}{2}$	55 $\frac{1}{2}$
60	17 $\frac{3}{8}$	17 $\frac{3}{8}$	7 $\frac{9}{16}$	7 $\frac{9}{16}$	9 $\frac{1}{16}$	8 $\frac{1}{2}$	1 $\frac{1}{2}$	31 $\frac{1}{8}$	32 $\frac{7}{8}$	71 $\frac{1}{2}$	62 $\frac{5}{8}$

Blade.	H	J		K	L	M	N	O	P	No. of lugs.
		1 ph.	3 ph.							
ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	
36	42 $\frac{1}{2}$	18 $\frac{1}{2}$	18 $\frac{1}{16}$	42 $\frac{1}{2}$	37 $\frac{1}{2}$	1	1 $\frac{1}{8}$	11 $\frac{3}{8}$	22 $\frac{1}{2}$	3
42	49 $\frac{1}{2}$	11 $\frac{3}{8}$	—	49 $\frac{1}{2}$	44 $\frac{3}{8}$	1 $\frac{1}{8}$	1 $\frac{1}{8}$	13 $\frac{3}{8}$	26 $\frac{3}{4}$	3
48	56 $\frac{3}{8}$	11 $\frac{3}{8}$	—	55 $\frac{5}{8}$	50 $\frac{5}{8}$	1 $\frac{1}{8}$	1 $\frac{5}{8}$	15	30	3
54	62 $\frac{1}{2}$	13 $\frac{1}{2}$	—	59 $\frac{1}{2}$	56 $\frac{1}{2}$	1 $\frac{1}{8}$	1 $\frac{1}{2}$	16	31 $\frac{1}{2}$	3
60	68	14 $\frac{3}{4}$	—	65 $\frac{5}{8}$	62	1 $\frac{1}{8}$	1 $\frac{3}{4}$	18 $\frac{1}{8}$	36 $\frac{1}{2}$	3

NOTE—On 42-in. fans and upwards the c.i. terminal box is not integral with the end casting.

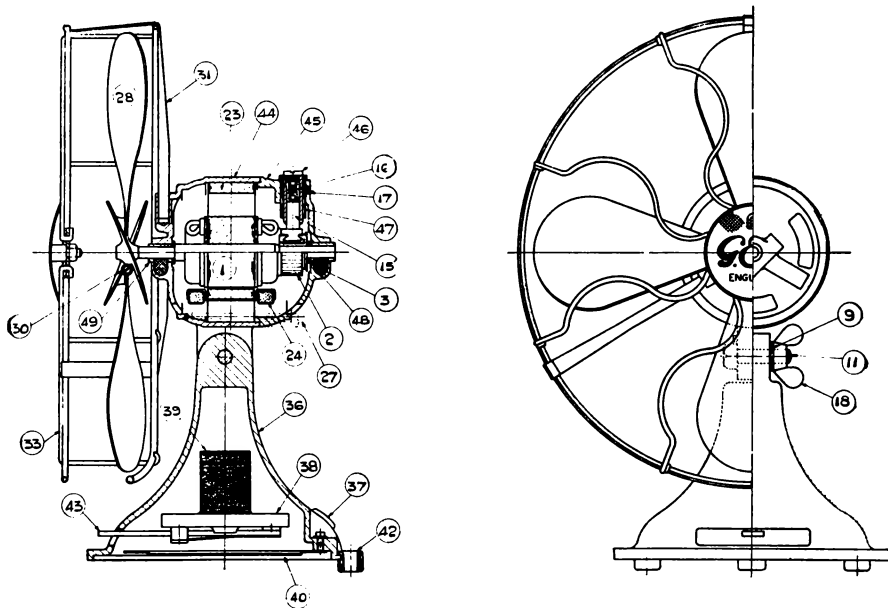
# TABLE AND BRACKET FANS

**Non-oscillating Universal Series Commutator Pattern**

**10-inch (25-cm.) BLADES**

## SPARE PARTS DIAGRAMS

*For Prices and Particulars see page 864.*



*For Spare Parts Prices see page 924.*

*When ordering, the Serial Number of the Motor, together with the particulars on the name plate must be specified.*

# **S.E.C.**

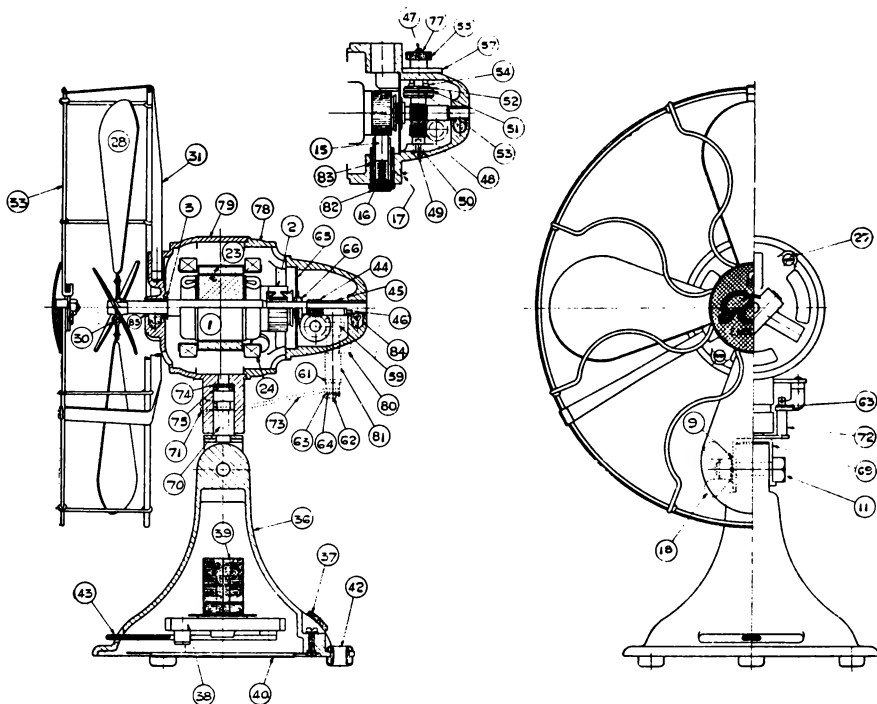
## **TABLE AND BRACKET FANS**

**D.C. and A.C. Oscillating Pattern**

**10-Inch (25-cm.) BLADES**

### **SPARE PARTS DIAGRAMS**

*For Prices and Particulars see page 865.*



*For Spare Parts Prices see pages 924 and 925.*

*When ordering, the Serial Number of the Motor, together with the particulars on the name plate, must be specified.*

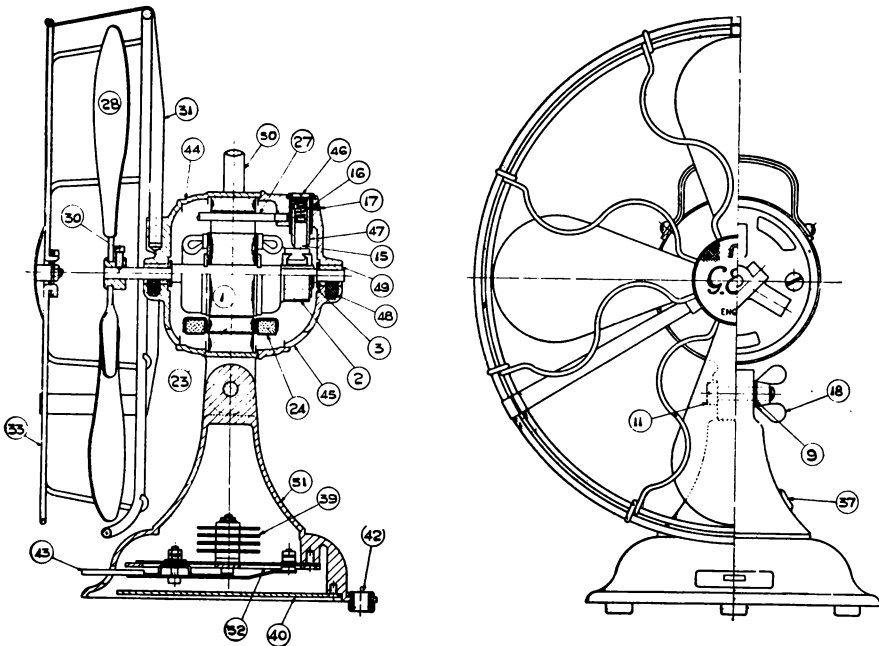
# TABLE AND BRACKET FANS

**D.C. Non-oscillating Laminated Pattern**

**12-Inch (30-cm.) BLADES**

## SPARE PARTS DIAGRAMS

*For Prices and Particulars see page 866.*



*For Spare Parts Prices see page 925.*

*When ordering, the Serial Number of the Motor, together with the particulars on the name plate, must be specified.*

# **S.E.C.**

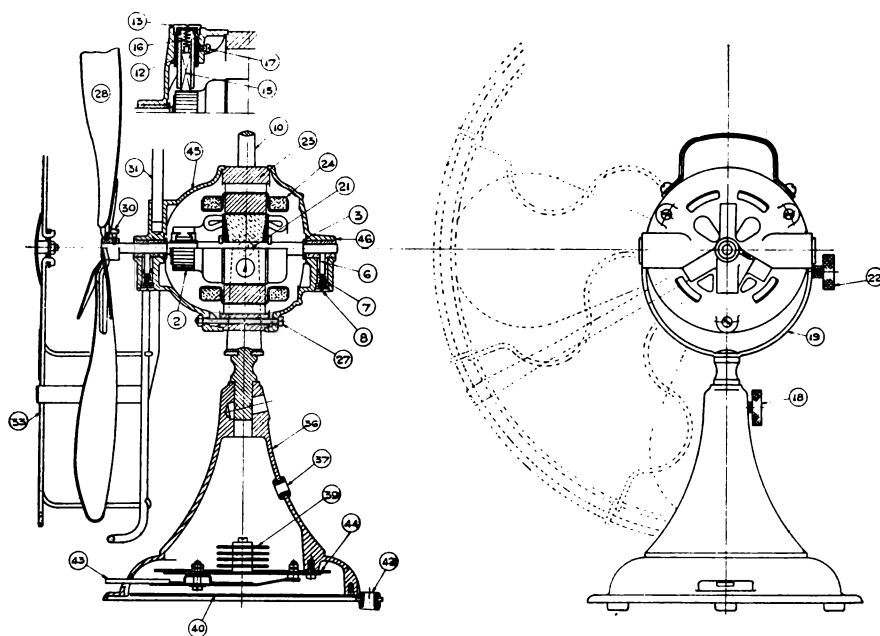
## **TABLE AND BRACKET FANS**

**D.C. Non-oscillating Laminated Pattern**

**16-Inch (40-cm.) BLADES**

### **SPARE PARTS DIAGRAMS**

*For Prices and Particulars see page 867.*



*For Spare Parts Prices see page 925.*

*When ordering, the Serial Number of the Motor, together with the particulars on the name plate, must be specified.*



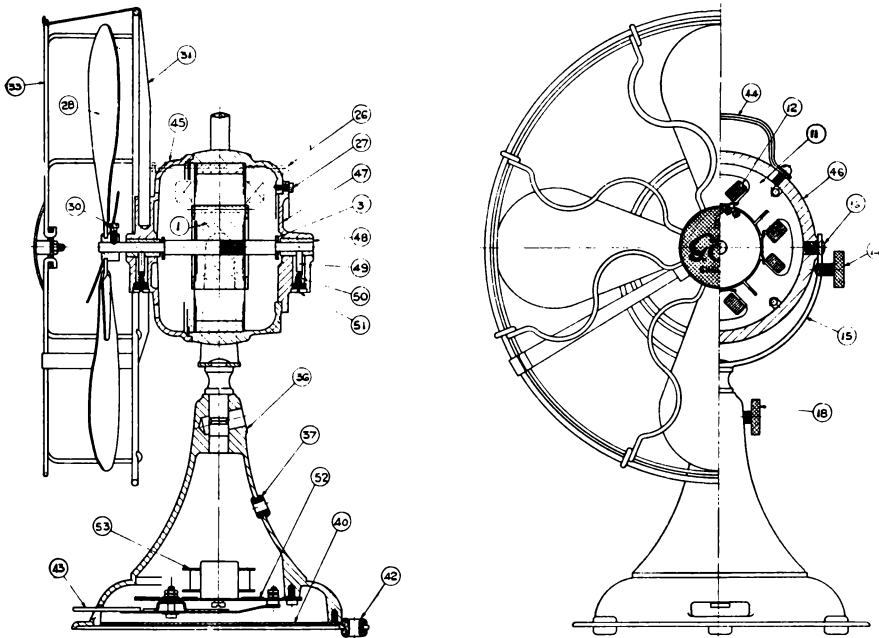
# TABLE AND BRACKET FANS

**A.C. Non-oscillating Induction Pattern**

**12-inch (30-cm.) and 16-inch (40-cm.) BLADES**

## SPARE PARTS DIAGRAMS

*For Prices and Particulars see page 868.*



*For Spare Parts Prices see page 926.*

*When ordering, the Serial Number of the Motor, together with the particulars on the name plate, must be specified.*

# S.E.C.

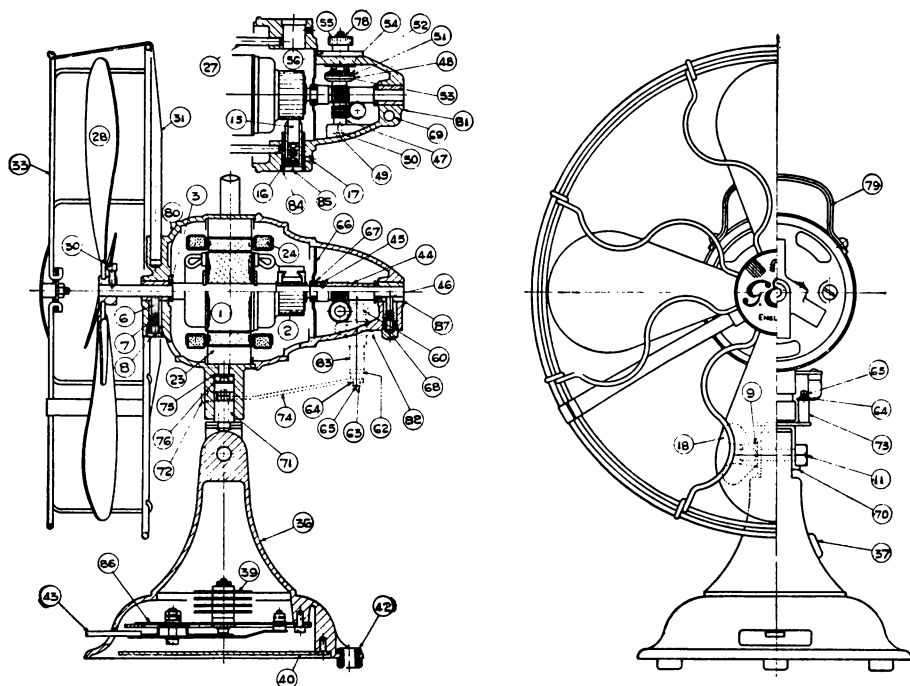
## TABLE AND BRACKET FANS

**D.C. Oscillating Laminated Pattern**

**12-inch (30-cm.) BLADES**

### SPARE PARTS DIAGRAMS

*For Prices and Particulars see page 870.*



*For Spare Parts Prices see pages 926 and 927.*

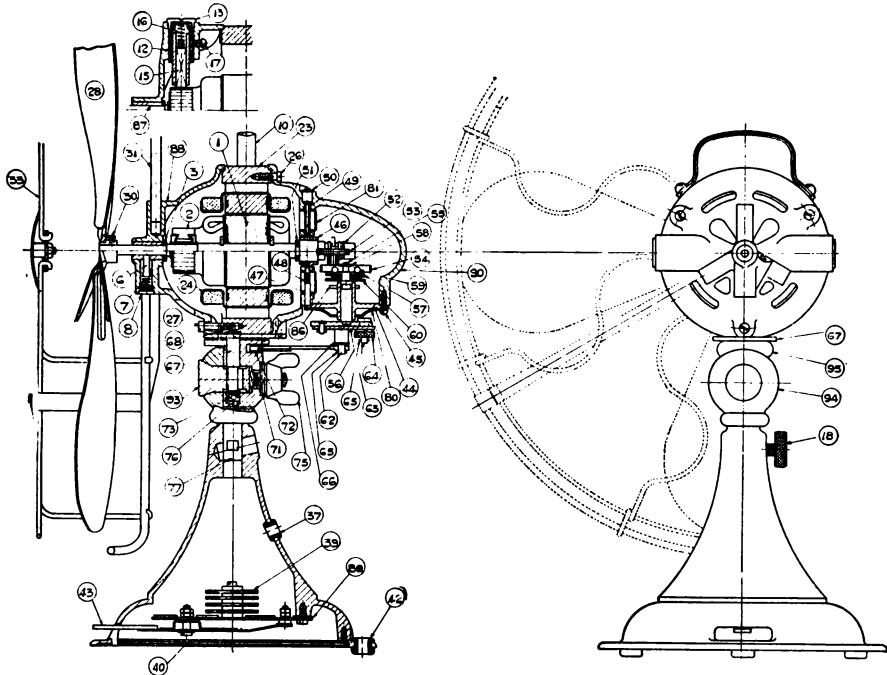
*When ordering, the Serial Number of the Motor, together with the particulars on the name plate, must be specified.*

# TABLE AND BRACKET FANS

**D.C. Oscillating Pattern  
16-inch (40-cm.) BLADES**

## SPARE PARTS DIAGRAMS

*For Prices and Particulars see page 871.*



*For Spare Parts Prices see pages 927 and 928.*

*When ordering, the Serial Number of the Motor, together with the particulars on the name plate, must be specified.*

# S.E.C.

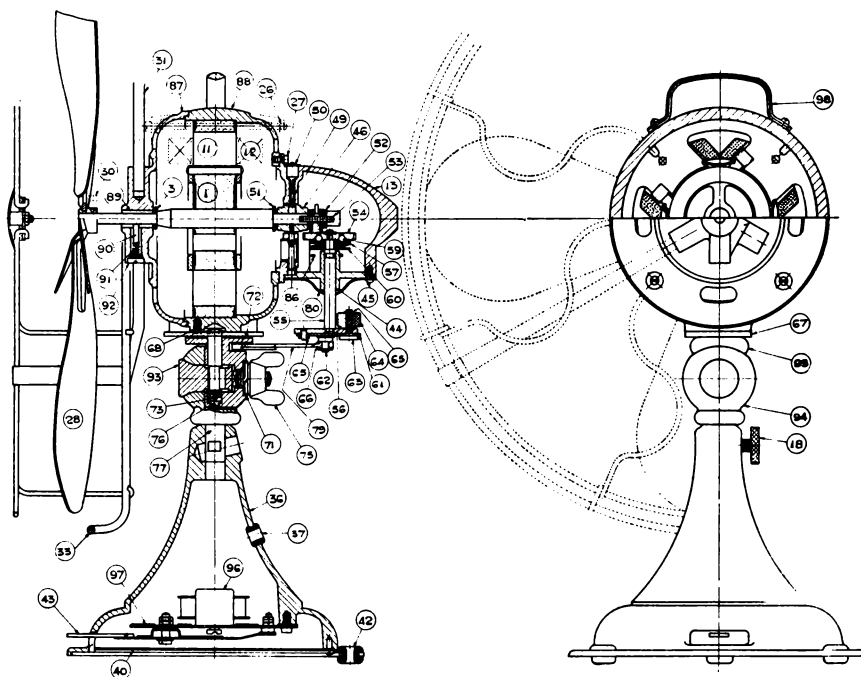
## TABLE AND BRACKET FANS

**A.C. Oscillating Induction Pattern**

**12-inch (30-cm.) and 16-inch (40-cm.) BLADES**

### SPARE PARTS DIAGRAMS

*For Prices and Particulars see pages 872 and 873.*



*For Spare Parts Prices see pages 928 and 929.*

*When ordering, the Serial Number of the Motor, together with the particulars on the name plate, must be specified.*

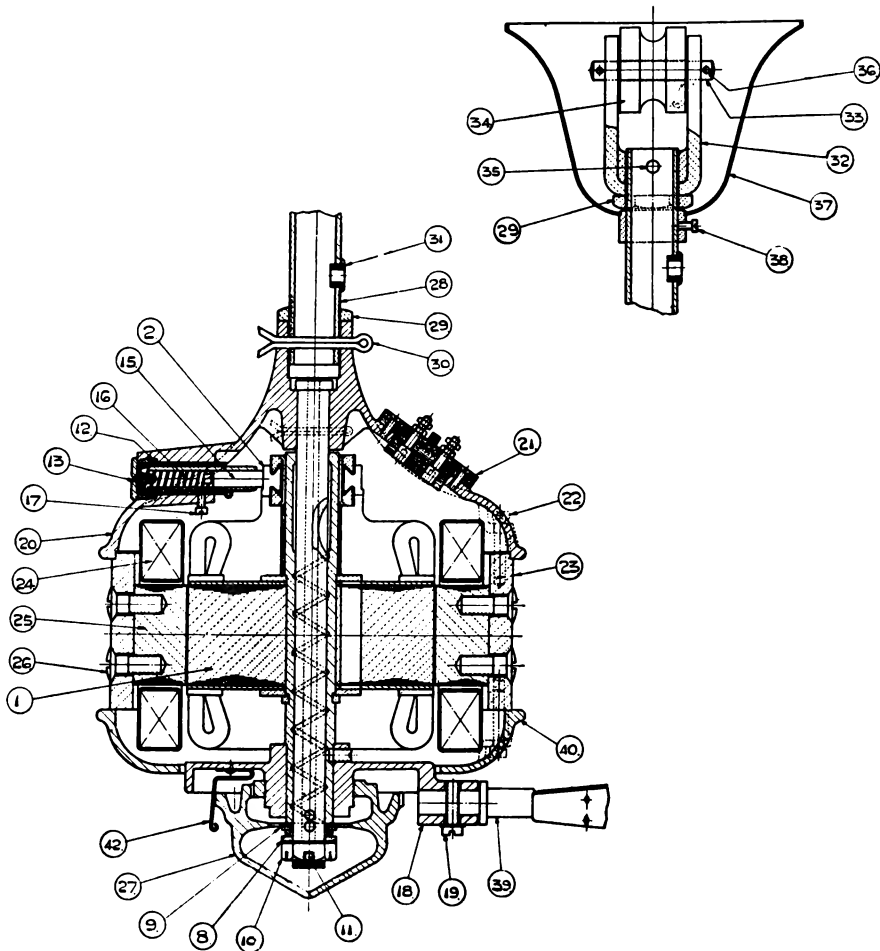
# CEILING FANS

The "SUPER SWAN"

Direct Current

## SPARE PARTS DIAGRAMS

*For Prices and Particulars see page 885.*



*For Spare Parts Prices see page 929.*

*When ordering, the Serial Number of the Motor, together with the particulars on the name plate, must be specified.*

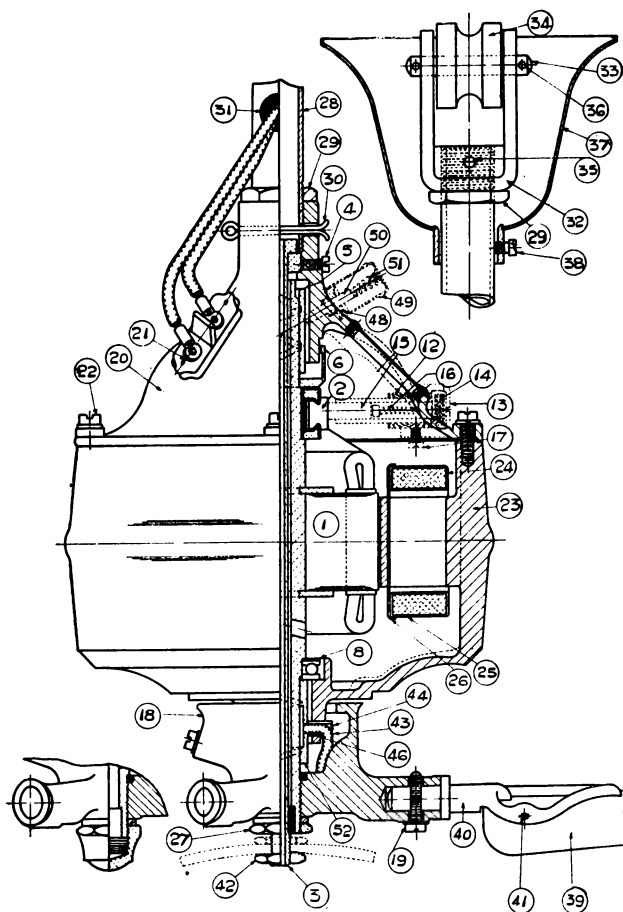
## CEILING FANS

The "MALAYA" and "MALAYA JUNIOR"

Direct Current

### SPARE PARTS DIAGRAMS

*For Prices and Particulars see page 886.*



*For Spare Parts Prices see page 930.*

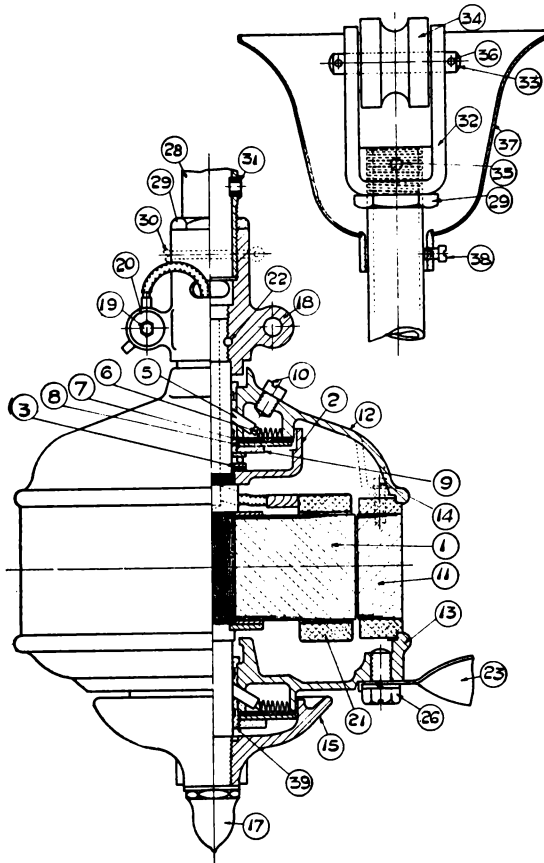
*When ordering, the Serial Number of the Motor, together with the particulars on the name plate, must be specified.*

## CEILING FANS

The "KINGSWAY" and "KINGSWAY JUNIOR"  
Alternating Current

### SPARE PARTS DIAGRAMS

*For Prices and Particulars see pages 888 and 889.*



*For Spare Parts Prices see pages 930 and 931.*

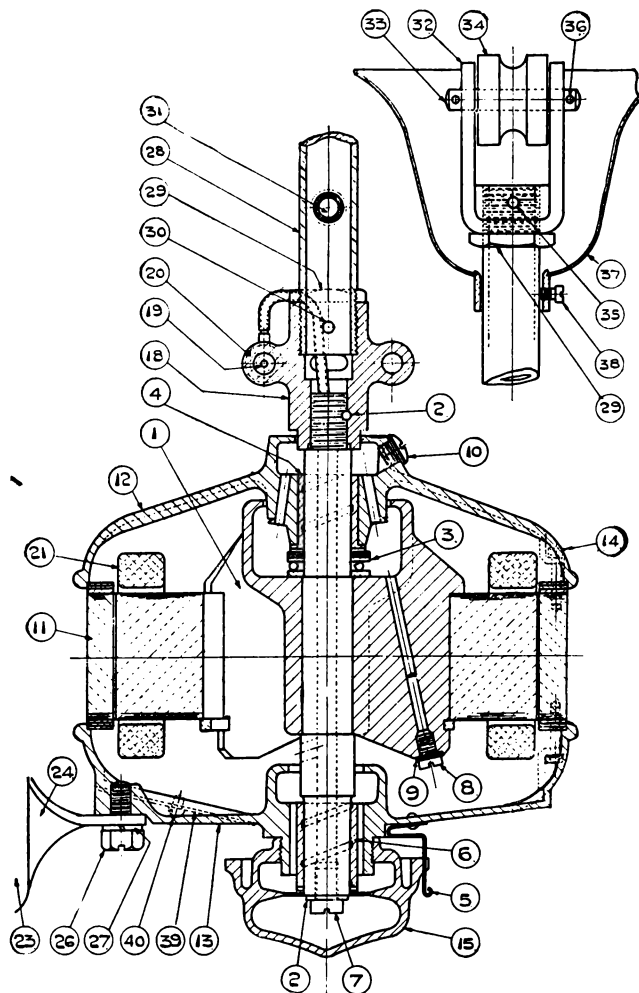
*When ordering, the Serial Number of the Motor, together with the particulars on the name plate, must be specified.*

## CEILING FANS

The "EVEREST"  
Alternating Current

### SPARE PARTS DIAGRAMS

*For Prices and Particulars see page 890.*



*For Spare Parts Prices see page 931.*

*When ordering, the Serial Number of the Motor, together with the particulars on the name plate, must be specified.*

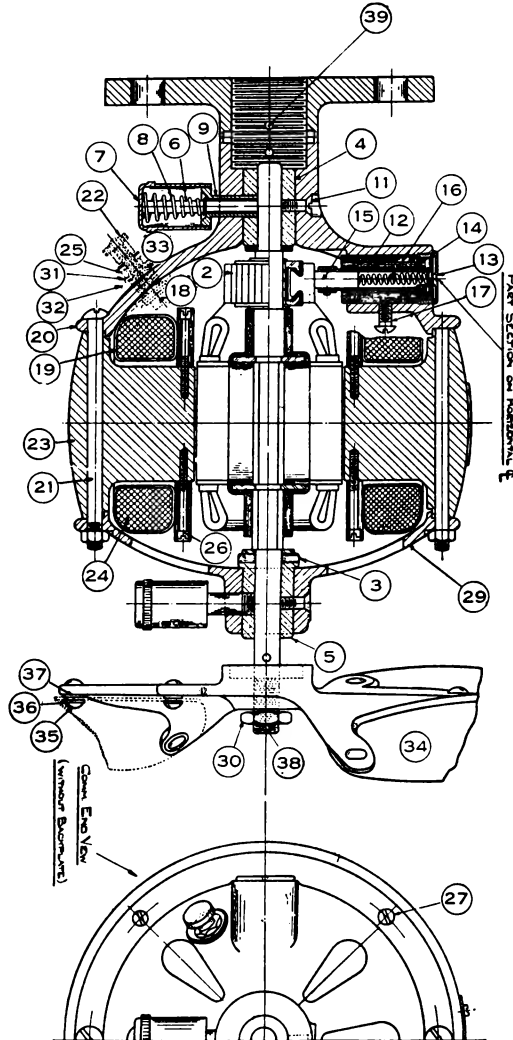


# SHIP FANS

**The "MYNA"  
Direct Current**

## SPARE PARTS DIAGRAMS

*For Prices and Particulars see page 876.*



*For Spare Parts Prices see page 932.*

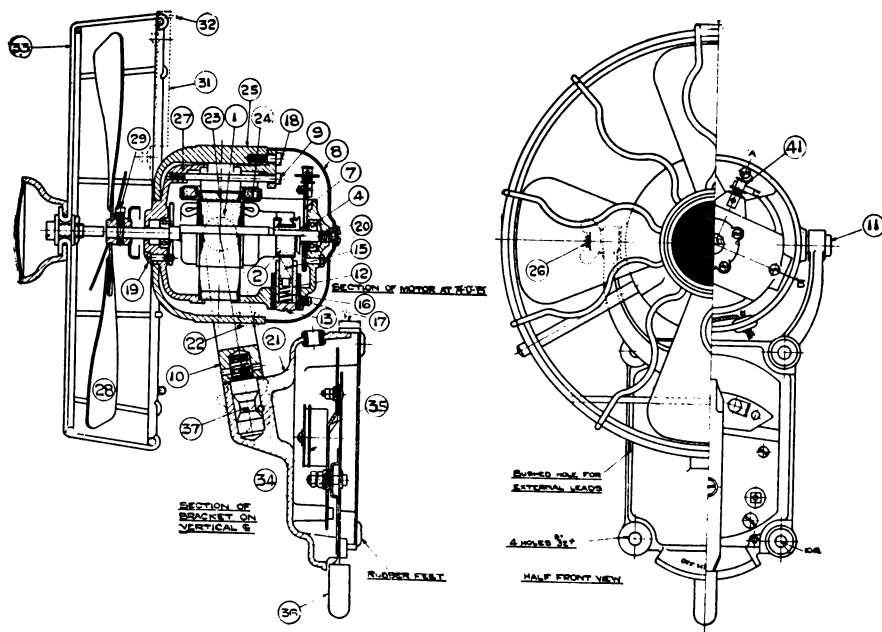
*When ordering, the Serial Number of the Motor, together with the particulars on the name plate, must be specified.*

## RAILWAY FANS

9½-Inch (24-cm.) BLADES

### SPARE PARTS DIAGRAMS

*For Prices and Particulars see page 878.*



*For Spare Parts Prices see page 933.*

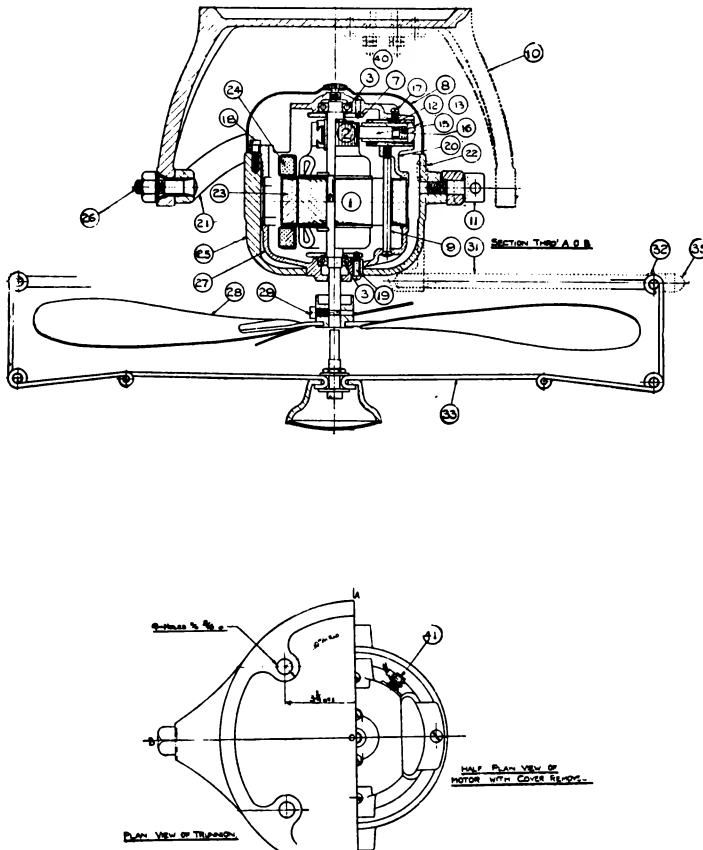
*When ordering, the Serial Number of the Motor, together with the particulars on the name plate, must be specified.*

# RAILWAY FANS

**16-Inch (40-cm.) BLADES**

## SPARE PARTS DIAGRAMS

*For Prices and Particulars see page 878.*



*For Spare Parts Prices see page 933.*

*When ordering, the Serial Number of the Motor, together with the particulars on the name plate, must be specified.*

## SPARE FAN PARTS

The numbers in the first column refer to the part numbers shown in small circles on the spare parts diagrams (pages 909 to 923).

### 10-inch UNIVERSAL NON-OSCILLATING FAN

Part No.	Description.	Price.	Part No.	Description.	Price.
10D 1	Armature complete	<b>18/-</b> ea.	10D31	Strut .. ..	<b>1/-</b> set
10D 2	Commutator ..	<b>5/-</b> ea.	10D33	Guard .. ..	<b>5/-</b> ea.
10D 3	Fibre Washer ..	<b>8d.</b> doz.	10D36	Base .. ..	<b>2/8</b> ea.
10D 9	Spring Washer ..	<b>8d.</b> doz.	10D37	Cable Bush ..	<b>1/-</b> doz.
10D11	Hinge Screw ..	<b>2/8</b> doz.	10D38	Switch complete ..	<b>2/6</b> ea.
10D15	Brush .. ..	<b>7/-</b> doz.	10D39	Resistance ..	<b>1/-</b> ea.
10D16	Spring .. ..	<b>1/-</b> doz.	10D40	Cover Plate ..	<b>6d.</b> ea.
10D17	Brush Tube Fixing Screw .. ..	<b>4d.</b> doz.	10D42	Rubber Feet ..	<b>1/-</b> doz.
10D18	Wing Nut .. ..	<b>1/8</b> doz.	10D43	Switch Handle ..	<b>1/-</b> doz.
10D23	Laminated Field ..	<b>20/-</b> doz. sets	10D44	Shell .. ..	<b>3/6</b> ea.
10D24	Field Coil .. ..	<b>5/-</b> set	10D45	Comm. End Bracket	<b>4/-</b> ea.
10D27	Bracket Screws ..	<b>1/-</b> doz.	10D46	Brush Tube ..	<b>6d.</b> ea.
10D28	Fan .. ..	<b>4/-</b> ea.	10D47	Brush Cap .. ..	<b>3d.</b> ea.
10D30	Fan Fixing Screw ..	<b>8d.</b> doz.	10D48	Wick .. ..	<b>2d.</b> ea.
			10D49	Bearing Bush ..	<b>8d.</b> ea.

### 10-inch D.C. and A.C. OSCILLATING FAN

Part No.	Description.	Price.	Part No.	Description.	Price.
10E 1	Armature complete*	<b>18/-</b> ea.	10E38	Switch complete ..	<b>2/6</b> ea.
10E 2	Commutator complete .. ..	<b>5/-</b> ea.	10E39	Resistance* ..	<b>1/-</b> ea.
10E 3	Fibre Washer ..	<b>8d.</b> doz.	10E40	Cover Plate ..	<b>6d.</b> ea.
10E 9	Spring Washer ..	<b>8d.</b> doz.	10E42	Rubber Feet ..	<b>1/-</b> doz.
10E11	Hinge Screw ..	<b>2/8</b> doz.	10E43	Switch Handle ..	<b>1/-</b> doz.
10E15	Brush .. ..	<b>7/-</b> doz.	10E44	Worm .. ..	<b>19/-</b> doz.
10E16	Spring .. ..	<b>1/-</b> doz.	10E45	Thrust Sleeve ..	<b>2/-</b> doz.
10E17	Brush Tube Fixing Screw .. ..	<b>4d.</b> doz.	10E46	Thrust Washer ..	<b>1/4</b> gr.
10E18	Wing Nut .. ..	<b>1/8</b> doz.	10E47	Layshaft .. ..	<b>3/6</b> ea.
10E23	Laminated Field ..	<b>20/-</b> doz. sets	10E48	Clutch Sleeve and Worm Wheel ..	<b>1/4</b> ea.
10E24	Field Coil* .. ..	<b>5/-</b> pair	10E49	Retaining Screw ..	<b>2/-</b> gr.
10E27	Bracket Screw ..	<b>1/-</b> doz.	10E50	Retaining Washer ..	<b>1/-</b> gr.
10E28	Fan .. ..	<b>4/-</b> ea.	10E51	Clutch Plate ..	<b>1/-</b> doz.
10E30	Fan Fixing Screw ..	<b>8d.</b> doz.	10E52	Clutch Spring ..	<b>1/4</b> doz.
10E31	Strut .. ..	<b>1/-</b> set	10E53	Clutch Ball ..	<b>8d.</b> gr.
10E33	Guard .. ..	<b>5/-</b> ea.	10E54	Floating Bearing ..	<b>8/-</b> doz.
10E36	Base .. ..	<b>2/8</b> ea.	10E55	Adjusting Nut ..	<b>2/-</b> doz.
10E37	Cable Bush .. ..	<b>1/-</b> ea.	10E57	Bearing Bush ..	<b>1/-</b> ea.
			10E59	Worm Wheel ..	<b>1/4</b> ea.

*Continued at top of next page.*

\* When ordering these spare parts it is essential to state whether D.C. or A.C. is required.

*When ordering the Serial Number of the Motor, together with the particulars on the name plate, must be specified.*

## SPARE FAN PARTS

### 10-inch D.C. and A.C. Oscillating Fan—(continued from previous page)

Part No.	Description.	Price.	Part No.	Description.	Price.
10E61	Crank Plate ..	2d. ea.	10E74	Thrust Disc ..	2/4 doz.
10E62	Crank Pivot ..	2d. ea.	10E75	Thrust Ball ..	8d. gr.
10E63	Washer ..	8d. gr.	10E76	End Cap ..	1/- doz.
10E64	Cotter Pins ..	1/4 gr.	10E77	Spring Retaining Ring ..	2/6 gr.
10E65	Grease Retaining Plate ..	1/4 doz.	10E78	Comm. End Bracket	6/10 ea.
10E66	Felt Washer ..	8d. doz.	10E79	Shell ..	3/4 ea.
10E69	Tilting Saddle assembled ..	17/6 doz.	10E80	Gear Bearing Bush	8d. ea.
10E70	Tilting Stem assembled ..		10E81	Oscillating Shaft ..	6d. ea.
10E71	Retaining Screw ..	1/8 doz.	10E82	Brush Cap ..	4d. ea.
10E72	Link Pivot Stud ..	1/8 doz.	10E83	Brush Tube ..	6d. ea.
10E73	Link ..	1/8 doz.	10E84	Wick ..	2d. ea.
			10E85	Bearing Bush ..	8d. ea.

### 12-inch DIRECT CURRENT NON-OSCILLATING FAN

Part No.	Description.	Price.	Part No.	Description.	Price.
12D 1	Armature complete	21/- ea.	12D31	Strut ..	1/4 set
12D 2	Commutator ..	5/- ea.	12D33	Guard ..	6/- ea.
12D 3	Fibre Washer ..	8d. doz.	12D37	Cable Bush ..	1/- doz.
12D 9	Spring Washer ..	8d. doz.	12D39	Resistance ..	2/8 ea.
12D11	Hinge Screw ..	2/4 doz.	12D40	Cover Plate ..	8d. ea.
12D15	Brush ..	7/- doz.	12D42	Rubber Feet ..	1/- doz.
12D16	Spring ..	1/- doz.	12D43	Switch Handle ..	8d. ea.
12D17	Brush Tube Fixing Screw ..	8d. doz.	12D44	Shell ..	5/10 ea.
12D18	Wing Nut ..	4/- doz.	12D45	Comm. End Bracket	5/10 ea.
12D23	Laminated Field ..	26/- doz. sets	12D46	Brush Cap ..	6d. ea.
12D24	Field Coil ..	6/4 set	12D47	Brush Tube ..	1/- ea.
12D27	Bracket Screw ..	1/4 doz.	12D48	Wick ..	2d. ea.
12D28	Fan ..	6/- ea.	12D49	Bearing Bush ..	8d. ea.
12D30	Fan Fixing Screw ..	8d. doz.	12D50	Handle ..	4d. ea.
			12D51	Base ..	2/8 ea.
			12D52	Switch complete ..	6/2 ea.

### 16-inch DIRECT CURRENT NON-OSCILLATING FAN

Part No.	Description.	Price.	Part No.	Description.	Price.
16D 1	Armature complete	24/- ea.	16D23	Shell ..	5/6 ea.
16D 2	Commutator ..	5/- ea.	16D24	Field Coil ..	7/6 set
16D 3	Fibre Washer ..	8d. doz.	16D27	Bracket Screws ..	1/4 doz.
16D 6	Wick ..	1/4 doz.	16D28	Fan ..	9/- ea.
16D 7	Spring ..	1/- doz.	16D30	Fan Fixing Screw ..	8d. doz.
16D 8	Plug ..	1/- doz.	16D31	Strut ..	1/4 set
16D10	Handle ..	3/4 doz.	16D33	Guard ..	7/6 ea.
16D12	Brush Tube complete	1/4 ea.	16D36	Base ..	6/- ea.
16D13	Brush Cap ..	5/8 doz.	16D37	Cable Bush ..	1/- doz.
16D15	Brush ..	7/- doz.	16D39	Resistance ..	3/8 ea.
16D16	Spring ..	1/- doz.	16D40	Cover Plate ..	8d. ea.
16D17	Brush Fixing Screw	8d. doz.	16D42	Rubber Feet ..	1/- doz.
16D18	Knurled Fixing Screw	1/8 doz.	16D43	Switch Handle ..	8d. ea.
16D19	Trunnion ..	2/- ea.	16D44	Switch complete ..	7/- ea.
16D21	Swivel Screws ..	1/- doz.	16D45	Comm. End Bracket	8/6 ea.
16D22	Trunnion Locking Screw ..	2/- doz.	16D46	Opposite Fan End Bracket ..	5/10 ea.

## SPARE FAN PARTS

### 12-inch ALTERNATING CURRENT NON-OSCILLATING FAN

Part No.	Description.	Price.	Part No.	Description.	Price.
12A 1	Rotor .. ..	13/- ea.	12A36	Base .. ..	6/- ea.
12A 3	Fibre Washer ..	8d. doz.	12A37	Cable Bush ..	1/- doz.
12A11	Stator Core..	6/- ea.	12A40	Cover Plate ..	8d. ea.
12A12	Stator Winding ..	20/- set	12A42	Rubber Feet ..	1/- doz.
12A14	Locking Screw ..	3/8 doz.	12A43	Switch Handle ..	8d. ea.
12A15	Trunnion .. ..	1/8 ea.	12A44	Handle .. ..	3d. ea.
12A16	Swivel Screw ..	1/4 doz.	12A45	Fan End Bracket ..	6/- ea.
12A18	Base Fixing Screw..	3/8 doz.	12A46	Shell .. ..	6/6 ea.
12A26	Fan End Bracket Screw .. ..	1/- doz.	12A47	Opposite Fan End Bracket .. ..	4/2 ea.
12A27	Opposite Fan End Bracket Screw ..	8d. doz.	12A48	Bearing Bush ..	1/- ea.
12A28	Fan .. ..	6/- ea.	12A49	Wick .. ..	2d. ea.
12A30	Fan Fixing Screw ..	8d. doz.	12A50	Spring .. ..	2d. ea.
12A31	Strut .. ..	1/4 set	12A51	Lubrication Cap ..	4d. ea.
12A33	Guard .. ..	6/- ea.	12A52	Switch complete ..	3/4 ea.
			12A53	Choke .. ..	3/- ea.

### 16-inch ALTERNATING CURRENT NON-OSCILLATING FAN

Part No.	Description.	Price.	Part No.	Description.	Price.
16A 1	Rotor .. ..	13/- ea.	16A36	Base .. ..	6/- ea.
16A 3	Fibre Washer ..	8d. doz.	16A37	Cable Bush ..	1/- doz.
16A11	Stator Core..	6/4 ea.	16A40	Cover Plate ..	8d. ea.
16A12	Stator Winding ..	15/- set	16A42	Rubber Feet ..	1/- doz.
16A14	Locking Screw ..	8d. ea.	16A43	Switch Handle ..	8d. ea.
16A15	Trunnion .. ..	2/- ea.	16A44	Handle .. ..	3d. ea.
16A16	Swivel Screw ..	1/8 doz.	16A45	Fan End Bracket ..	5/8 ea.
16A18	Base Fixing Screw..	2/4 doz.	16A46	Shell .. ..	6/- ea.
16A26	Fan End Bracket Screw .. ..	1/4 doz.	16A47	Opposite Fan End Bracket .. ..	3/6 ea.
16A27	Opposite Fan End Bracket Screw ..	8d. doz.	16A48	Bearing Bush ..	1/- ea.
16A28	Fan .. ..	9/- ea.	16A49	Wick .. ..	2d. ea.
16A30	Fan Fixing Screw ..	8d. doz.	16A50	Spring .. ..	2d. ea.
16A31	Strut .. ..	1/4 set	16A51	Lubrication Cap ..	4d. ea.
16A33	Guard .. ..	7/6 ea.	16A52	Switch complete ..	3/6 ea.
			16A53	Choke .. ..	3/- ea.

### 12-inch DIRECT CURRENT OSCILLATING FAN

Part No.	Description.	Price.	Part No.	Description.	Price.
12E 1	Armature complete	21/- ea.	12E17	Brush Tube Fixing Screw .. ..	8d. doz.
12E 2	Commutator complete	5/- ea.	12E18	Wing Nut .. ..	4/- doz.
12E 3	Fibre Washer ..	8d. doz.	12E23	Laminated Field ..	26/8 doz.
12E 6	Wick .. ..	2/- doz.	12E24	Field Coil .. ..	6/4 set
12E 7	Spring .. ..	8d. doz.	12E27	Bracket Screw ..	1/- doz.
12E 8	Plug.. ..	8d. doz.	12E28	Fan .. ..	6/- ea.
12E 9	Spring Washer ..	8d. doz.	12E30	Fan Fixing Screw ..	8d. doz.
12E10	Steel Shroud ..	5/- doz.	12E31	Strut .. ..	1/- set
12E11	Hinge Screw ..	2/4 doz.	12E33	Guard .. ..	6/- ea.
12E15	Brush .. ..	7/- doz.			
12E16	Spring .. ..	1/- doz.			

*Continued at top of next page.*

*When ordering, the Serial Number of the Motor, together with the particulars on the name plate, must be specified.*

## SPARE FAN PARTS

**12-inch Direct Current Oscillating Fan**—(continued from previous page).

Part No.	Description.	Price.	Part No.	Description.	Price.
12E36	Base .. ..	6/- ea.	12E64	Washers .. ..	8d. gr.
12E37	Cable Bush.. ..	1/- doz.	12E65	Cotter Pin .. ..	1/- gr.
12E39	Resistance .. ..	2/8 ea.	12E66	Grease Retaining Plate .. ..	2/- doz.
12E40	Cover Plate .. ..	8d. ea.	12E67	Felt Washer .. ..	8d. doz.
12E42	Rubber Feet .. ..	1/8 doz.	12E68	Oil Plug .. ..	2/8 doz.
12E43	Switch Handle .. ..	8d. ea.	12E69	Lubricator .. ..	3/- doz.
12E44	Worm .. ..	2/- ea.	12E70	Tilting Saddle .. ..	8d. ea.
12E45	Worm Fixing Screw .. ..	8d. doz.	12E71	Tilting Stem .. ..	8d. ea.
12E46	Thrust Washer .. ..	8d. doz.	12E72	Retaining Screw .. ..	2/8 doz.
12E47	Layshaft .. ..	3/4 ea.	12E73	Link Pivot Stud .. ..	2/- doz.
12E48	Clutch Sleeve and Worm Wheel .. ..	1/4 ea.	12E74	Link .. ..	3/4 doz.
12E49	Retaining Screw .. ..	8d. gr.	12E75	Thrust Disc .. ..	2/4 doz.
12E50	Retaining Washer .. ..	1/- gr.	12E76	Thrust Ball .. ..	1/8 gr.
12E51	Clutch Plate .. ..	1/- doz.	12E78	Spring Retaining Ring .. ..	8d. doz.
12E52	Clutch Spring .. ..	1/- doz.	12E79	Handle .. ..	3d. ea.
12E53	Clutch Ball .. ..	1/- gr.	12E80	Shell .. ..	6/2 ea.
12E54	Floating Bearing .. ..	4/8 doz.	12E81	Gear End Bracket.. ..	10/8 ea.
12E55	Adjusting Nut .. ..	3/8 doz.	12E82	Gear Bearing Bush .. ..	1/- ea.
12E57	Bearing Bush (M.S.) .. ..	10d. ea.	12E83	Oscillating Shaft .. ..	4d. ea.
12E59	Fixing Screw .. ..	2/6 gr.	12E84	Brush Tube .. ..	8d. ea.
12E60	Worm Wheel .. ..	1/- ea.	12E85	Brush Cap .. ..	6d. ea.
12E62	Crank Plate .. ..	4d. ea.	12E86	Switch complete .. ..	6/2 ea.
12E63	Crank Pivot assembled .. ..	4d. ea.	12E87	Bearing Bush .. ..	1/- ea.

## 16-INCH DIRECT CURRENT OSCILLATING FAN

Part No.	Description.	Price.	Part No.	Description.	Price.
16D 1	Armature complete .. ..	25/- ea.	16D44	Gear Base Plate .. ..	2/- ea.
16D 2	Commutator complete .. ..	5/- ea.	16D45	Fixing Screws .. ..	2/- gr.
16D 3	Fibre Washer .. ..	8d. doz.	16D46	Bearing Bush .. ..	3/4 ea.
16D 6	Wick .. ..	1/- doz.	16D47	Fixing Screw for Bush .. ..	1/4 doz.
16D 7	Spring .. ..	1/- doz.	16D48	Spring .. ..	4/- gr.
16D 8	Plug .. ..	1/- doz.	16D49	Lubricator Tubes .. ..	1/8 doz.
16D10	Handle .. ..	3/4 doz.	16D50	Lubricator .. ..	3/- doz.
16D12	Brush Tube complete .. ..	18/- doz.	16D51	Thrust Washer .. ..	3/4 gr.
16D13	Brush Cap .. ..	5/- doz.	16D52	Worm .. ..	2/- ea.
16D15	Brush .. ..	7/- doz.	16D53	Worm Wheel and Pinion .. ..	2/- ea.
16D16	Spring .. ..	8d. doz.	16D54	Spur Wheel .. ..	1/- ea.
16D17	Brush Tube Fixing Screw .. ..	8d. doz.	16D55	Oscillating Shaft assembled .. ..	2/- ea.
16D18	Wing Screw .. ..	1/8 doz.	16D56	Oscillating Plate assembled .. ..	2/- ea.
16D23	Shell .. ..	5/- ea.	16D57	Clutch Plate .. ..	2/- doz.
16D24	Field Coil .. ..	7/6 set	16D58	Key Washer .. ..	2/8 gr.
16D26	Gear End Bracket Screw .. ..	8d. doz.	16D59	Clutch Ball .. ..	1/4 gr.
16D27	Comm. End Bracket Screw .. ..	8d. doz.	16D60	Clutch Spring .. ..	1/4 doz.
16D28	Fan .. ..	9/- ea.	16D61	Adjusting Plate assembled .. ..	7/- doz.
16D30	Fan Fixing Screw.. ..	8d. doz.	16D62	Crank Pin assembled .. ..	3/6 doz.
16D31	Strut .. ..	1/4 set	16D63	Adjusting Stud .. ..	2/- doz.
16D33	Guard .. ..	7/6 ea.	16D64	Adjusting Nut .. ..	2/- doz.
16D36	Base .. ..	6/- ea.	16D65	Cotter Pin .. ..	1/4 gr.
16D37	Cable Bush .. ..	1/- doz.	16D66	Washer .. ..	1/4 gr.
16D39	Resistance .. ..	3/8 ea.	16D67	Bottom Plate .. ..	8/4 doz.
16D40	Cover Plate .. ..	8d. ea.	16D68	Fixing Screw .. ..	2/- gr.
16D42	Rubber Feet .. ..	1/4 doz.	16D71	Spring Washer .. ..	8d. doz.
16D43	Switch Handle .. ..	8d. ea.	16D72	Pivot Pin .. ..	1/- doz.

Continued at top of next page.

## SPARE FAN PARTS

**16-inch Direct Current Oscillating Fan**—(continued from previous page)

Part No.	Description.	Price.	Part No.	Description.	Price.
16D73	Thrust Ball ..	<b>1/4</b> gr.	16D88	Comm. End Bracket	<b>8/2</b> ea.
16D75	Wing Nut ..	<b>2/-</b> doz.	16D89	Switch complete ..	<b>7/-</b> ea.
16D76	Thrust Disc ..	<b>1/4</b> doz.	16D90	Gear End Bracket ..	<b>8/8</b> ea.
16D77	Stem for Tilting Ball	<b>5d.</b> ea.	16D93	Swivel Stem ..	<b>1/6</b> ea.
16D79	Crank ..	<b>1/-</b> ea.	16D94	Bottom Half Tilting Ball ..	<b>3/6</b> ea.
16D80	Grease Retaining Cap	<b>4/8</b> doz.	16D95	Top Half Tilting Ball ..	<b>3/6</b> ea.
16D81	Thimble ..	<b>1/-</b> doz.			
16D87	Bearing Bush ..	<b>1/-</b> ea.			

## 12-inch ALTERNATING CURRENT OSCILLATING FAN

Part No.	Description.	Price.	Part No.	Description.	Price.
12B 1	Rotor complete ..	<b>12/6</b> ea.	12B59	Clutch Ball ..	<b>1/4</b> gr.
12B 3	Fibre Washer ..	<b>8d.</b> doz.	12B60	Clutch Spring ..	<b>1/4</b> doz.
12B11	Stator Core ..	<b>6/4</b> ea.	12B61	Adjusting Plate as-sembled ..	<b>7/-</b> doz.
12B12	Stator Winding ..	<b>17/-</b> set	12B62	Crank Pin as-sembled ..	
12B13	Gear End Bracket	<b>36/-</b> ea.	12B63	Adjusting Stud ..	<b>3/4</b> doz.
12B18	Base Fixing Screw	<b>3/4</b> doz.	12B64	Adjusting Nut ..	<b>2/-</b> doz.
12B26	Fan End Bracket Screw ..	<b>1/-</b> doz.	12B65	Cotter Pin ..	<b>1/4</b> gr.
12B27	Gear Bracket Screw	<b>8d.</b> doz.	12B66	Washer ..	<b>1/4</b> gr.
12B28	Fan ..	<b>6/-</b> ea.	12B67	Bottom Plate ..	<b>8/4</b> doz.
12B30	Fan Fixing Screw ..	<b>8d.</b> doz.	12B68	Fixing Screw ..	<b>2/-</b> gr.
12B31	Strut ..	<b>1/4</b> set	12B71	Spring Washer ..	<b>8d.</b> doz.
12B33	Guard ..	<b>6/-</b> ea.	12B72	Pivot Pin ..	<b>1/-</b> doz.
12B36	Base ..	<b>6/-</b> ea.	12B73	Thrust Ball ..	<b>1/4</b> gr.
12B37	Cable Bush ..	<b>1/-</b> doz.	12B75	Wing Nut ..	<b>2/-</b> doz.
12B40	Cover Plate ..	<b>8d.</b> ea.	12B76	Thrust Disc ..	<b>1/4</b> doz.
12B42	Rubber Feet ..	<b>1/-</b> doz.	12B77	Stem for Tilting Ball	<b>6d.</b> ea.
12B43	Switch Handle ..	<b>8d.</b> ea.	12B79	Crank ..	<b>8d.</b> ea.
12B44	Gear Base Plate ..	<b>2/-</b> ea.	12B80	Grease Retaining Cap	<b>4/8</b> doz.
12B45	Fixing Screws ..	<b>2/-</b> gr.	12B81	Thimble ..	<b>1/-</b> doz.
12B46	Bearing Bush ..	<b>3/4</b> ea.	12B87	Fan End Bracket ..	<b>6/2</b> ea.
12B47	Fixing Screw for Bush ..	<b>1/4</b> doz.	12B88	Shell ..	<b>6/-</b> ea.
12B48	Spring ..	<b>4/-</b> gr.	12B89	Bearing Bush ..	<b>1/-</b> ea.
12B49	Lubricator Tubes ..	<b>1/8</b> doz.	12B90	Wick ..	<b>2d.</b> ea.
12B50	Lubricator ..	<b>3/-</b> doz.	12B91	Spring ..	<b>2d.</b> ea.
12B51	Thrust Washer ..	<b>3/4</b> gr.	12B92	Lubrication Cap ..	<b>4d.</b> ea.
12B52	Worm ..	<b>2/-</b> ea.	12B93	Swivel Stem ..	<b>1/8</b> ea.
12B53	Worm Wheel and Pinion ..	<b>2/-</b> ea.	12B94	Bottom Half Tilting Ball ..	<b>3/6</b> ea.
12B54	Spur Wheel ..	<b>1/-</b> ea.	12B95	Top Half Tilting Ball	<b>5/2</b> ea.
12B55	Oscillating Shaft	<b>2/-</b> ea.	12B96	Choke ..	<b>3/2</b> ea.
12B56	Oscillating Plate		12B97	Switch complete ..	<b>3/6</b> ea.
12B57	Clutch Plate ..	<b>2/-</b> doz.	12B98	Handle ..	<b>4d.</b> ea.
12B58	Key Washer ..	<b>2/8</b> gr.			

When ordering the Serial Number of the Motor, together with the particulars on the name plate, must be specified.



# **SPARE FAN PARTS**

## **16-inch ALTERNATING CURRENT OSCILLATING FAN**

Part No.	Description.	Price.	Part No.	Description.	Price.
16B 1	Rotor complete ..	<b>12/6</b> ea.	16B59	Clutch Ball ..	<b>1/4</b> gr.
16B 3	Fibre Washer ..	<b>8d.</b> doz.	16B60	Clutch Spring ..	<b>1/4</b> doz.
16B11	Stator Core ..	<b>6/-</b> ea.	16B61	Adjusting Plate as-sembled ..	<b>7/-</b> doz.
16B12	Stator Winding ..	<b>15/4</b> set	16B62	Crank Pin as-sembled ..	
16B13	Gear End Bracket ..	<b>36/4</b> ea.	16B63	Adjusting Stud ..	<b>3/4</b> doz.
16B18	Base Fixing Screw ..	<b>3/8</b> doz.	16B64	Adjusting Nut ..	<b>2/-</b> doz.
16B26	Fan End Bracket Screw ..	<b>1/4</b> doz.	16B65	Cotter Pin ..	<b>1/4</b> gr.
16B27	Gear Bracket Screw ..	<b>8d.</b> doz.	16B66	Washer ..	<b>1/4</b> gr.
16B28	Fan ..	<b>9/-</b> ea.	16B67	Bottom Plate ..	<b>8/4</b> doz.
16B30	Fan Fixing Screw ..	<b>8d.</b> doz.	16B68	Fixing Screw ..	<b>2/-</b> gr.
16B31	Strut ..	<b>1/4</b> set	16B71	Spring Washer ..	<b>8d.</b> doz.
16B33	Guard ..	<b>7/6</b> ea.	16B72	Pivot Pin ..	<b>1/-</b> doz.
16B36	Base ..	<b>6/-</b> ea.	16B73	Thrust Ball ..	<b>1/4</b> gr.
16B37	Cable Bush ..	<b>1/-</b> doz.	16B75	Wing Nut ..	<b>2/-</b> doz.
16B40	Cover Plate ..	<b>8d.</b> ea.	16B76	Thrust Disc ..	<b>1/4</b> doz.
16B42	Rubber Feet ..	<b>1/4</b> doz.	16B77	Stem for Tilting Ball ..	<b>6d.</b> ea.
16B43	Switch Handle ..	<b>8d.</b> ea.	16B79	Crank ..	<b>8d.</b> ea.
16B44	Gear Base Plate ..	<b>2/-</b> ea.	16B80	Grease Retaining Cap ..	<b>4/8</b> doz.
16B45	Fixing Screws ..	<b>2/-</b> gr.	16B81	Thimble ..	<b>1/-</b> doz.
16B46	Bearing Bush ..	<b>3/4</b> ea.	16B87	Fan End Bracket ..	<b>5/8</b> ea.
16B47	Fixing Screw for Bush ..	<b>1/4</b> doz.	16B88	Shell ..	<b>6/2</b> ea.
16B48	Spring ..	<b>4/-</b> gr.	16B89	Bearing Bush ..	<b>1/-</b> ea.
16B49	Lubricator Tubes ..	<b>1/8</b> doz.	16B90	Wick ..	<b>2d.</b> ea.
16B50	Lubricator ..	<b>3/-</b> doz.	16B91	Spring ..	<b>2d.</b> ea.
16B51	Thrust Washer ..	<b>3/4</b> gr.	16B92	Lubrication Cap ..	<b>4d.</b> ea.
16B52	Worm ..	<b>2/-</b> ea.	16B93	Swivel Stem ..	<b>1/4</b> ea.
16B53	Worm Wheel and Pinion ..	<b>2/-</b> ea.	16B94	Bottom Half Tilting Ball ..	<b>3/6</b> ea.
16B54	Spur Wheel ..	<b>1/-</b> ea.	16B95	Top Half Tilting Ball ..	<b>5/2</b> ea.
16B55	Oscillating Shaft ..	<b>2/-</b> ea.	16B96	Choke ..	<b>3/2</b> ea.
16B56	Oscillating Plate ..		16B97	Switch complete ..	<b>3/6</b> ea.
16B57	Clutch Plate ..	<b>2/-</b> doz.	16B98	Handle ..	<b>4d.</b> ea.
16B58	Key Washer ..	<b>2/8</b> gr.			

## **SUPER SWAN FAN**

Part No.	Description.	Price.	Part No.	Description.	Price.
JA 1	Armature complete ..	<b>87/6</b> ea.	JA24	Field Coil ..	<b>58/-</b> set
JA 2	Commutator ..	<b>12/-</b> ea.	JA25	Pole ..	<b>14/-</b> set
JA 8	Thrust Bearing ..	<b>2/-</b> ea.	JA26	Pole Screw ..	<b>1/4</b> doz.
JA 9	Fibre Washers ..	<b>8d.</b> doz.	JA27	Oil Cup ..	<b>3/4</b> ea.
JA10	Hex. Nut ..	<b>3/-</b> doz.	JA28	Down Rod ..	<b>1/4</b> ft.
JA11	Split Pin ..	<b>8d.</b> doz.	JA29	Lock Nut ..	<b>2/8</b> doz.
JA12	Brush Tube complete ..	<b>1/4</b> ea.	JA30	Split Pin ..	<b>8d.</b> doz.
JA13	Brush Cap complete ..	<b>6d.</b> ea.	JA31	Cable Bush ..	<b>1/-</b> doz.
JA15	Brush ..	<b>8d.</b> ea.	JA32	Shackle ..	<b>3/4</b> ea.
JA16	Spring ..	<b>8d.</b> doz.	JA33	Pin ..	<b>3/4</b> doz.
JA17	Fixing Screw ..	<b>8d.</b> doz.	JA34	Insulator ..	<b>8d.</b> ea.
JA18	Blade Carrier ..	<b>6/-</b> ea.	JA35	Split Pin ..	<b>8d.</b> doz.
JA19	Blade Fixing Screw ..	<b>1/-</b> doz.	JA36	Split Pin ..	<b>8d.</b> doz.
JA20	Comm. End Bracket ..	<b>20/-</b> ea.	JA37	Canopy ..	<b>2/8</b> ea.
JA21	Terminal Block complete ..	<b>1/4</b> ea.	JA38	Screw ..	<b>8d.</b> doz.
JA22	Bracket Fixing Screw ..	<b>5/-</b> doz.	JA39	Blades ..	<b>30/-</b> set
JA23	Shell ..	<b>16/-</b> ea.	JA40	Guard Plate ..	<b>5/-</b> ea.
			JA42	Spring Catch ..	<b>2/-</b> doz.

## SPARE FAN PARTS

### MALAYA AND MALAYA JUNIOR FANS\*

Part No.*	Description.	Price.	Part No.	Description.	Price.
KA 1	Armature complete with top oil cup..	56/- ea.	KA23	Shell .. ..	25/4 ea.
KA 2	Commutator ..	11/- ea.	KA24	Field Coil .. ..	19/- pair
KA 3	Electrolier Tube ..	2/- ea.	KA25	Insulating Strip ..	8d. doz.
KA 4	Electrolier Fixing Screw .. ..	8d. doz.	KA26	Coil Support .. ..	3/- doz.
KA 5	Bearing Bush ..	3/4 pair	KA27	Lock Nut .. ..	2/- doz.
KA 6	Top Oil Cup ..	6/- doz.	KA28	Down Rod .. ..	1/4 ft.
KA 8	Ball Thrust Washer ..	2/4 ea.	KA29	Lock Nut .. ..	2/8 doz.
KA11	Dome Nut .. ..	12/- doz.	KA30	Split Pin .. ..	8d. doz.
KA12	Brush Tube complete (insulation and brass) .. ..	15/4 doz.	KA31	Cable Bush .. ..	2/- doz.
KA13	Brush Cap—Brass..	4/6 doz.	KA32	Shackle .. ..	3/4 ea.
KA14	Brush Cap—Insulation .. ..	2/- doz.	KA33	Pin .. ..	3/4 doz.
KA15	Brush .. ..	6/8 doz.	KA34	Insulator .. ..	8d. ea.
KA16	Spring .. ..	8d. doz.	KA35	Split Pin .. ..	8d. doz.
KA17	Brush Tube Fixing Screw .. ..	8d. doz.	KA36	Split Pin .. ..	8d. doz.
KA18	Oil Cup and Blade Carrier, 3-Blade ..	6/- ea.	KA37	Canopy .. ..	2/- ea.
KA19	Blade Fixing Screw ..	1/4 doz.	KA38	Screws .. ..	8d. doz.
KA20	Commutator End Bracket .. ..	15/4 ea.	KA39	Blades, Aluminium	30/- set
KA21	Terminal Block complete .. ..	24/- doz.	KA40	Blade Holder .. ..	3/8 ea.
KA22	Bracket Fixing Screw ..	8d. doz.	KA41	Screw .. ..	1d. ea.
			KA42	Lock Nut .. ..	1/- doz.
			KA43	Wick .. ..	1/- doz.
			KA44	Spring .. ..	8d. doz.
			KA46	Wick Support .. ..	2/- doz.
			KA48	Lubricator Plug ..	3/- doz.
			KA49	Lubricator Cap ..	8d. doz.
			KA50	Lubricator Wick ..	1/6 doz.
			KA51	Lubricator Spring ..	8d. doz.
			KA52	Bottom Bearing Bush	3/6 ea.

\*When ordering Spare Parts for "Malaya Junior" Fans use prefix "K1A" for Spare Part numbers.

### KINGSWAY FAN

Part No.	Description.	Price.	Part No.	Description.	Price.
LC 1	Stator Complete ..	43/- ea.	LC20	Insulating Washer	1/- doz.
LC 2	Top Oil Cup .. ..	1/4 ea.	LC21	Stator Coil .. ..	26/- set
LC 3	Thrust Washer .. ..	1/8 ea.	LC22	Split Pin .. ..	1/4 doz.
LC 5	Wick .. ..	1/8 doz.	LC23	Blades .. ..	30/- set
LC 6	Spring .. ..	8d. doz.	LC26	Screw .. ..	8d. doz.
LC 7	Felt Washer .. ..	1/4 doz.	LC28	Down Rod .. ..	1/4 ft.
LC 8	Steel Washer .. ..	1/8 doz.	LC29	Lock Nut .. ..	2/8 doz.
LC 9	Nut .. ..	6/- doz.	LC30	Split Pin .. ..	8d. doz.
LC10	Filling Screw .. ..	8d. doz.	LC31	Cable Bush .. ..	1/- doz.
LC11	Rotor complete ..	45/- ea.	LC32	Shackle .. ..	2/6 ea.
LC12	Top Bearing Bracket ..	10/- ea.	LC33	Pin .. ..	3/4 doz.
LC13	Bottom Bearing Bracket .. ..	9/- ea.	LC34	Insulator .. ..	8d. ea.
LC14	Bracket Fixing Screw ..	8d. doz.	LC35	Split Pin .. ..	8d. doz.
LC15	Bottom Oil Cup .. ..	2/- ea.	LC36	Split Pin .. ..	1/4 doz.
LC17	Dome Nut .. ..	8d. ea.	LC37	Canopy .. ..	2/8 ea.
LC18	Connecting Piece .. ..	4/- ea.	LC38	Screw .. ..	8d. doz.
LC19	Terminal Screw and Nut .. ..	8d. ea.	LC39	Tubes of Grease ..	8d. ea.
				Bearing Bush .. ..	2/2 ea.

When ordering the Serial Number of the Motor, together with the particulars on the name plate, must be specified.

# SPARE FAN PARTS

## KINGSWAY JUNIOR FAN

Part No.	Description.	Price.	Part No.	Description.	Price.
LB 1	Stator Complete ..	<b>43/-</b> ea.	LB20	Insulating Washer	<b>1/-</b> doz.
LB 2	Top Oil Cup ..	<b>1/4</b> ea.	LB21	Stator Coil .. ..	<b>17/-</b> set
LB 3	Thrust Washer ..	<b>2/4</b> ea.	LB22	Split Pin ..	<b>1/-</b> doz.
LB 5	Wick ..	<b>1/8</b> doz.	LB23	Blades ..	<b>30/-</b> set
LB 6	Spring .. ..	<b>8d.</b> doz.	LB26	Screw .. ..	<b>6/-</b> doz.
LB 7	Felt Washer ..	<b>2/4</b> doz.	LB28	Down Rod .. ..	<b>1/4</b> ft.
LB 8	Steel Washer ..	<b>1/4</b> doz.	LB29	Lock Nut .. ..	<b>2/8</b> doz.
LB 9	Nut .. ..	<b>7/-</b> doz.	LB30	Split Pin .. ..	<b>1/-</b> doz.
LB10	Filling Screw ..	<b>2/8</b> doz.	LB31	Cable Bush ..	<b>1/-</b> doz.
LB11	Rotor complete ..	<b>30/-</b> ea.	LB32	Shackle .. ..	<b>2/8</b> ea.
LB12	Top Bearing Bracket	<b>8/-</b> ea.	LB33	Pin .. ..	<b>3/4</b> doz.
LB13	Bottom Bearing Bracket .. ..	<b>9/-</b> ea.	LB34	Insulator .. ..	<b>8d.</b> ea.
LB14	Bracket Fixing Screw	<b>1/-</b> doz.	LB35	Split Pin .. ..	<b>8d.</b> doz.
LB15	Bottom Oil Cup ..	<b>2/-</b> ea.	LB36	Split Pin .. ..	<b>1/4</b> doz.
LB17	Dome Nut .. ..	<b>6/-</b> doz.	LB37	Canopy .. ..	<b>2/8</b> ea.
LB18	Connecting Piece ..	<b>4/-</b> ea.	LB38	Screw .. ..	<b>8d.</b> doz.
LB19	Terminal Screw and Nut .. ..	<b>2/-</b> doz.	LB39	Tubes of grease ..	<b>8d.</b> ea.
				Bearing Bush ..	<b>2/2</b> ea.

## EVEREST FAN

Part No.	Description.	Price.	Part No.	Description.	Price.
ZA 1	Stator complete ..	<b>90/-</b> ea.	ZA21	Stator Coil .. ..	<b>42/-</b> ea.
ZA 2	Sealing Washer ..	<b>8d.</b> doz.	ZA22	Split Pin .. ..	<b>8d.</b> doz.
ZA 3	Thrust Washer ..	<b>1/4</b> ea.	ZA23	Blades .. ..	<b>30/-</b> set
ZA 4	Top Bearing Bush	<b>2/-</b> ea.	ZA24	Blade Holder ..	<b>3/2</b> ea.
ZA 5	Locking Spring ..	<b>1/4</b> doz.	ZA26	Blade Screw ..	<b>2/-</b> doz.
ZA 6	Bottom Bearing Bush	<b>2/-</b> ea.	ZA27	Grooved Washer ..	<b>2d.</b> ea.
ZA 7	Drain Screw ..	<b>3/2</b> doz.	ZA28	Down Rod .. ..	<b>1/4</b> ft.
ZA 8	Drain Screw ..	<b>1/4</b> doz.	ZA29	Lock Nut .. ..	<b>2/8</b> doz.
ZA 9	Sealing Washer ..	<b>8d.</b> doz.	ZA30	Split Pin .. ..	<b>8d.</b> doz.
ZA10	Oil Filling .. ..	<b>1/-</b> doz.	ZA31	Cable Bush ..	<b>1/-</b> doz.
ZC11	Rotor complete ..	<b>78/-</b> ea.	ZA32	Shackle .. ..	<b>2/4</b> ea.
ZC12	Top Bearing Bracket	<b>10/-</b> ea.	ZA33	Pin .. ..	<b>3/4</b> doz.
ZC13	Bottom Bearing Bracket .. ..	<b>14/2</b> ea.	ZA34	Insulator .. ..	<b>8d.</b> ea.
ZA14	Bracket Fixing Screw	<b>8d.</b> doz.	ZA35	Split Pin .. ..	<b>8d.</b> doz.
ZA15	Bottom Oil Cup ..	<b>2/8</b> ea.	ZA36	Split Pin .. ..	<b>1/4</b> doz.
ZA18	Connecting Piece ..	<b>3/6</b> ea.	ZA37	Canopy .. ..	<b>2/8</b> ea.
ZA19	Terminal Screw and Nut .. ..	<b>1/4</b> doz.	ZA38	Screw .. ..	<b>6d.</b> doz.
ZA20	Insulating Washer ..	<b>8d.</b> doz.	ZA39	Inspection Cover ..	<b>1/-</b> doz.
			ZA40	Screw .. ..	<b>6d.</b> doz.
				Tin of Oil .. ..	<b>8d.</b> ea.

## SPARE FAN PARTS

### 24-Inch MYNA FAN

Part No.	Description.	Price.	Part No.	Description.	Price.
P 1	Armature complete wound .. ..	30/- ea.	P18	Terminal Screw ..	8d. doz.
P 2	Commutator .. ..	6/- ea.	P19	Terminal Socket ..	8d. doz.
P 3	Fibre Washer ..	1/- doz.	P20	Comm. End Bracket	7/4 ea.
P 4	Comm. End Bearing Bush .. ..	15/- doz.	P21	Security Bolt ..	1/4 doz.
P 5	Fan End Bearing Bush .. ..	15/- doz.	P22	Terminal Nut ..	1/8 doz.
P 6	Wick .. ..	12/- per 100	P23	Shell .. ..	10/- ea.
P 7	Lubricator Cap ..	6/- doz.	P24	Field Coil ..	15/- pair
P 8	Spring .. ..	8d. doz.	P25	Lock Nut ..	8d. doz.
P 9	Lubricator Plug ..	4/- doz.	P26	Coil Support ..	2/- doz.
P11	Brush Screw ..	8d. doz.	P27	Bearing Fixing Screw	8d. doz.
P12	Brush Tube complete	14/- doz.	P29	Fan End Bracket ..	5/- ea.
P13	Brush Cap—Brass..	5/- doz.	P30	Lock Nut ..	8d. doz.
P14	Brush Cap—Insulation .. ..	2/4 doz.	P31	Brass Washer ..	2/- doz.
P15	Brush .. ..	5/4 doz.	P32	Mica Washer ..	8d. doz.
P16	Spring .. ..	8d. doz.	P33	Bush .. ..	1/4 doz.
P17	Brush Tube Fixing Screw .. ..	8d. doz.	P34	Blades (3-way) ..	18/- set
			P35	Screw .. ..	8d. doz.
			P36	Steel Washer ..	8d. doz.
			P37	Brass Washer ..	8d. doz.
			P38	Split Pin ..	8d. doz.
			P39	Back Plate and Nipple	6/- ea.

### 36-Inch MYNA FAN

Part No.	Description.	Price.	Part No.	Description.	Price.
Q 1	Armature complete wound .. ..	32/- ea.	Q18	Terminal Screw ..	8d. doz.
Q 2	Commutator .. ..	7/- ea.	Q19	Terminal Socket ..	8d. doz.
Q 3	Fibre Washer ..	1/- doz.	Q20	Comm. End Bracket	10/- ea.
Q 4	Comm. End Bearing Bush .. ..	19/- doz.	Q21	Security Bolt ..	20/- gr.
Q 5	Fan End Bearing Bush .. ..	19/- doz.	Q22	Terminal Nut ..	2/- doz.
Q 6	Wick .. ..	12/- per 100	Q23	Shell .. ..	12/- ea.
Q 7	Lubricator Cap ..	6/- doz.	Q24	Field Coil ..	22/- pair
Q 8	Spring .. ..	8d. doz.	Q25	Lock Nut ..	8d. doz.
Q 9	Lubricator Plug ..	4/- doz.	Q26	Coil Support ..	2/- doz.
Q11	Brush Screw ..	8d. doz.	Q27	Bearing Fixing Screw	8d. doz.
Q12	Brush Tube complete	14/- doz.	Q29	Fan End Bracket ..	6/- ea.
Q13	Brush Cap—Brass..	5/- doz.	Q30	Lock Nut ..	8d. doz.
Q14	Brush Cap—Insulation .. ..	2/4 doz.	Q31	Brass Washer ..	2/- doz.
Q15	Brush .. ..	5/4 doz.	Q32	Mica Washer ..	8d. doz.
Q16	Spring .. ..	8d. doz.	Q33	Bush .. ..	1/4 doz.
Q17	Brush Tube Fixing Screw .. ..	8d. doz.	Q34	Blades (3-way) ..	26/- set
			Q35	Screw .. ..	8d. doz.
			Q36	Steel Washer ..	8d. doz.
			Q37	Brass Washer ..	8d. doz.
			Q38	Split Pin ..	8d. doz.
			Q39	Back Plate and Nipple	6/- ea.

When ordering the Serial Number of the Motor, together with the particulars on the name plate, must be specified

# SPARE FAN PARTS

## 9½-inch RAILWAY FAN

Part No.	Description.	Price.	Part No.	Description.	Price.
R 1	Armature complete	<b>25/-</b> ea.	R21	Wall Bracket ..	<b>6/4</b> ea.
R 2	Commutator complete .. ..	<b>6/4</b> ea.	R22	Cable Bush ..	<b>2/4</b> doz.
R 4	Ball Bearing ..	<b>2/8</b> ea.	R23	Field System ..	<b>2/8</b> set
R 7	Bearing Clamp ..	<b>8d.</b> ea.	R24	Field Coil .. ..	<b>4/-</b> set
R 8	Commutator Cover	<b>3/4</b> ea.	R25	Outer Casing ..	<b>7/-</b> ea.
R 9	Bracket Screws ..	<b>8d.</b> doz.	R26	Gripping Device ..	<b>1/8</b> ea.
R10	Trunnion .. ..	<b>4/8</b> ea.	R27	Opposite Comm. End Bracket .. ..	<b>2/-</b> ea.
R11	Pivot Screw ..	<b>3/4</b> doz.	R28	Fan .. ..	<b>7/-</b> ea.
R12	Brush Tube complete	<b>15/-</b> doz.	R29	Fan Screw .. ..	<b>1/-</b> doz.
R13	Brush Cap .. ..	<b>1/4</b> doz.	R31	Strut .. ..	<b>3/-</b> set
R15	Brush .. ..	<b>12/-</b> doz.	R32	Guard Clip and Screw	<b>1/-</b> doz.
R16	Spring .. ..	<b>7/-</b> doz.	R33	Guard .. ..	<b>10/-</b> ea.
R17	Brush Tube Fixing Screw .. ..	<b>8d.</b> doz.	R34	Reg. Resistance ..	<b>2/-</b> ea.
R18	Motor Fixing Screw	<b>8d.</b> doz.	R35	Switch complete ..	<b>6/-</b> ea.
R19	Bearing Fixing Screw	<b>8d.</b> doz.	R36	Handle .. ..	<b>1/-</b> ea.
R20	Comm. End Bracket	<b>4/4</b> ea.	R37	Adjusting Screw ..	<b>12/8</b> doz.
			R41	Motor Terminal ..	<b>15/-</b> doz. prs.

## 16-inch RAILWAY FAN

Part No.	Description.	Price.	Part No.	Description.	Price.
SA 1	Armature complete	<b>32/-</b> ea.	SA21	Gimbal Ring ..	<b>9/-</b> ea.
SA 2	Commutator ..	<b>5/4</b> ea.	SA22	Cable Bush ..	<b>1/-</b> doz.
SA 3	Ball Bearing ..	<b>2/4</b> ea.	SA23	Field System ..	<b>11/-</b> ea.
SA 7	Bearing Clamp ..	<b>5/-</b> doz.	SA24	Field Coil .. ..	<b>8/-</b> set
SA 8	Commutator Cover	<b>4/-</b> ea.	SA25	Outer Casing ..	<b>7/6</b> ea.
SA 9	Bracket Screws ..	<b>1/4</b> doz.	SA26	Gripping Device complete .. ..	<b>6/8</b> doz.
SA10	Trunnion .. ..	<b>16/4</b> ea.	SA27	Opposite Comm. End Bracket .. ..	<b>6/8</b> ea.
SA11	Pivot Screw ..	<b>3/-</b> doz.	SA28	Fan .. ..	<b>10/-</b> ea.
SA12	Brush Tube complete	<b>1/4</b> ea.	SA29	Fan Screw .. ..	<b>1/4</b> doz.
SA13	Brush Cap .. ..	<b>3/-</b> doz.	SA31	Strut .. ..	<b>6/-</b> set
SA15	Brush .. ..	<b>1/4</b> doz.	SA32	Sleeve .. ..	<b>3/-</b> doz.
SA16	Spring .. ..	<b>1/-</b> doz.	SA33	Fan Guard .. ..	<b>10/-</b> ea.
SA17	Brush Tube Fixing Screw .. ..	<b>8d.</b> doz.	SA35	Dome Nut .. ..	<b>4/4</b> doz.
SA18	Motor Fixing Screw	<b>8d.</b> doz.	SA40	Terminal Block ..	<b>3/4</b> ea.
SA19	Bearing Fixing Screw	<b>8d.</b> doz.	SA41	Motor Terminal ..	<b>6/4</b> doz. prs.
SA20	Commutator End Bracket .. ..	<b>7/-</b> ea.			

## USEFUL ELECTRICAL DATA

### ELECTRICAL ABBREVIATIONS

Name of Unit.	Sign.	Name of Unit.	Sign.
1. Ampere .. .. .	A	11. Watt-hour .. ..	Wh
2. Volt .. .. .	V	12. Volt-ampere .. ..	VA
3. Ohm .. .. .	O or $\Omega$	13. Ampere-hour .. ..	Ah
4. Coulomb .. .. .	C	14. Milli-ampere .. ..	mA
5. Joule .. .. .	J	15. Kilowatt .. .. .	kW
6. Watt .. .. .	W	16. Kilovolt-ampere.. ..	kVA
7. Farad .. .. .	F	17. Kilowatt-hour .. ..	kWh
8. Microfarad .. ..	mF	18. Horse-power .. ..	HP
9. Henry .. .. .	H	19. Brake Horse-power ..	BHP
10. Volt-coulomb .. ..	VC	20. Indicated Horse-power..	IHP

### UNITS AND THEIR EQUIVALENTS

One ft.-lb.	.. .. .	= 1 lb. raised 1 foot high.
One BTU	.. .. .	= 1 lb. of water raised 1°F.
One BTU	.. .. .	= 778·8 ft. lbs.
One BTU	.. .. .	= 1,005 joules.
One BTU	.. .. .	= 0·252 kilogram calories.
One HP hour	.. .. .	= 0·746 kW hour.
One HP hour	.. .. .	= 1,980,000 ft. lbs.
One HP hour	.. .. .	= 2,545 BTU's.
One kWh .. .. .	.. .. .	= 1,000 watt hours.
One kWh .. .. .	.. .. .	= 1·34 HP hours.
One kWh .. .. .	.. .. .	= 3,412 BTU's.
One kWh .. .. .	.. .. .	= 2,654,200 ft. lbs.
One kWh .. .. .	.. .. .	= 3,600,000 joules.
One HP .. .. .	.. .. .	= 746 watts.
One HP .. .. .	.. .. .	= 0·746 kW.
One HP .. .. .	.. .. .	= 33,000 ft. lbs. per minute.
One HP .. .. .	.. .. .	= 550 ft. lbs. per second.
One HP .. .. .	.. .. .	= 2,545 BTU's. per hour.
One HP .. .. .	.. .. .	= 42·4 BTU's per minute.
One HP .. .. .	.. .. .	= 0·707 BTU's per second.

### COMPARATIVE WEIGHTS AND MEASURES

1 inch	= 2·54 centimetres.	1 lb. Av.	= 7,000 grains.
1 foot	= 30·4799 centimetres.	1 lb. Av.	= 453·6 grammes.
1 yard	= ·914399 metre.	1 oz. Av.	= 28·35 grammes.
1 metre	= 39·37 inches.	1 kilogramme	= 2·205 lbs. Av.
1 metre	= 3·281 feet.	1 litre	= 1·760 pints.
1 kilometre	= 0·6214 miles.	1 gallon	= 4·546 litres.

### WEIGHT EQUIVALENTS

Pounds/Kilogrammes				Kilogrammes/Pounds			
Lbs.	Kgs.	Lbs.	Kgs.	Kgs.	Lbs.	Kgs.	Lbs.
1	·45	8	3·63	60	27·22	1	2·20
2	·91	9	4·08	70	31·75	8	17·64
3	1·36	10	4·54	80	36·29	9	19·84
4	1·81	10	4·54	80	36·29	10	22·05
5	2·27	20	9·07	90	40·82	20	44·09
6	2·72	30	13·61	100	45·36	30	66·14
7	3·18	40	18·14	200	90·72	40	88·18
		50	22·68	300	136·08	50	110·23
						60	132·28
						70	154·32
						80	176·37
						90	198·42
						100	220·46
						200	440·92
						300	661·39

### LENGTH EQUIVALENTS

Inches to Millimetres				Millimetres to Inches			
Inches.	Mm.	Inches.	Mm.	Mm.	Inches.	Mm.	Inches.
1	25·4	8	203·2	40	1016·0	1	·039
2	50·8	9	228·6	50	1270·0	2	·079
3	76·2	10	254·0	60	1524·0	3	·118
4	101·6	11	279·4	70	1778·0	4	·157
5	127·0	12	304·8	80	2032·0	5	·197
6	152·4	20	508·0	90	2286·0	6	·236
7	177·8	30	762·0	100	2540·0	7	·275
						8	·315
						9	·354
						10	·394
						11	·433
						12	·472
						20	·787
						30	1·181
						40	1·575
						50	1·968
						60	2·362
						70	2·756
						80	3·150
						90	3·543
						100	3·937

## USEFUL ELECTRICAL DATA

### LENGTH EQUIVALENTS

Feet to Metres				Metres to Feet			
Feet.	Metres.	Feet.	Metres.	Metres.	Feet.	Metres.	Feet.
1	.305	8	2.438	40	12.19	1	3.28
2	.610	9	2.743	50	15.24	2	6.56
3	.914	10	3.048	60	18.29	3	9.84
4	1.219	11	3.353	70	21.34	4	13.12
5	1.524	12	3.657	80	24.38	5	16.40
6	1.829	20	6.10	90	27.43	6	19.69
7	2.134	30	9.14	100	30.48	7	22.97
						8	26.25
						9	29.53
						10	32.8
						11	36.08
						12	39.37
						20	65.6
						30	98.4
						40	131.2
						50	164.0
						60	196.9
						70	229.7
						80	262.5
						90	295.3
						100	328.0

### Fractions of an Inch in Millimetres

Fractions of an Inch.	Decimals of an Inch.	Milli-metres.	Fractions of an Inch.	Decimals of an Inch.	Milli-metres.	Fractions of an Inch.	Decimals of an Inch.	Milli-metres.
$\frac{1}{16}$	.0625	1.588	$\frac{7}{8}$	.875	22.38	$\frac{3}{8}$	.375	9.525
$\frac{1}{8}$	.1250	3.175	$\frac{1}{2}$	.5000	12.700	$\frac{1}{4}$	.2500	6.350
$\frac{3}{16}$	.1875	4.763	$\frac{3}{4}$	.7500	19.050	$\frac{1}{8}$	.1250	3.175
$\frac{1}{4}$	.2500	6.350	$\frac{5}{8}$	.6250	15.875	$\frac{3}{16}$	.1875	4.763
$\frac{5}{16}$	.3125	7.938	$\frac{1}{4}$	.2500	6.350	$\frac{1}{8}$	.1250	3.175
$\frac{3}{8}$	.3750	9.525	$\frac{1}{8}$	.1250	3.175	$\frac{1}{16}$	.0625	1.588
			$\frac{1}{16}$	.0625	1.588	$\frac{1}{32}$	.03125	.7938
			$\frac{1}{32}$	.03125	.7938	$\frac{1}{64}$	.015625	.3969
			$\frac{1}{64}$	.015625	.3969	$\frac{1}{128}$	.0078125	.1984
			$\frac{1}{128}$	.0078125	.1984	$\frac{1}{256}$	.00390625	.0992
			$\frac{1}{256}$	.00390625	.0992	$\frac{1}{512}$	.001953125	.0496
			$\frac{1}{512}$	.001953125	.0496	$\frac{1}{1024}$	.0009765625	.0248
			$\frac{1}{1024}$	.0009765625	.0248	$\frac{1}{2048}$	.00048828125	.0124
			$\frac{1}{2048}$	.00048828125	.0124	$\frac{1}{4096}$	.000244140625	.0062
			$\frac{1}{4096}$	.000244140625	.0062	$\frac{1}{8192}$	.0001220703125	.0031
			$\frac{1}{8192}$	.0001220703125	.0031	$\frac{1}{16384}$	.00006103515625	.0016
			$\frac{1}{16384}$	.00006103515625	.0016	$\frac{1}{32768}$	.000030517578125	.0008
			$\frac{1}{32768}$	.000030517578125	.0008	$\frac{1}{65536}$	.0000152587890625	.0004
			$\frac{1}{65536}$	.0000152587890625	.0004	$\frac{1}{131072}$	.00000762939453125	.0002
			$\frac{1}{131072}$	.00000762939453125	.0002	$\frac{1}{262144}$	.000003814697265625	.0001
			$\frac{1}{262144}$	.000003814697265625	.0001	$\frac{1}{524288}$	.0000019073486328125	.00005
			$\frac{1}{524288}$	.0000019073486328125	.00005	$\frac{1}{1048576}$	.00000095367431640625	.000025
			$\frac{1}{1048576}$	.00000095367431640625	.000025	$\frac{1}{2097152}$	.000000476837158203125	.0000125
			$\frac{1}{2097152}$	.000000476837158203125	.0000125	$\frac{1}{4194304}$	.0000002384185791015625	.00000625
			$\frac{1}{4194304}$	.0000002384185791015625	.00000625	$\frac{1}{8388608}$	.00000011920928955078125	.000003125
			$\frac{1}{8388608}$	.00000011920928955078125	.000003125	$\frac{1}{16777216}$	.000000059604644775390625	.0000015625
			$\frac{1}{16777216}$	.000000059604644775390625	.0000015625	$\frac{1}{33554432}$	.0000000298023223876953125	.00000078125
			$\frac{1}{33554432}$	.0000000298023223876953125	.00000078125	$\frac{1}{67108864}$	.00000001490116119384765625	.000000390625
			$\frac{1}{67108864}$	.00000001490116119384765625	.000000390625	$\frac{1}{134217728}$	.000000007450580596923828125	.0000001953125
			$\frac{1}{134217728}$	.000000007450580596923828125	.0000001953125	$\frac{1}{268435456}$	.0000000037252902984619140625	.00000009765625
			$\frac{1}{268435456}$	.0000000037252902984619140625	.00000009765625	$\frac{1}{536870912}$	.00000000186264514923095703125	.000000048828125
			$\frac{1}{536870912}$	.00000000186264514923095703125	.000000048828125	$\frac{1}{1073741824}$	.000000000931322574615478515625	.0000000244140625
			$\frac{1}{1073741824}$	.000000000931322574615478515625	.0000000244140625	$\frac{1}{2147483648}$	.0000000004656612873077392578125	.00000001220703125
			$\frac{1}{2147483648}$	.0000000004656612873077392578125	.00000001220703125	$\frac{1}{4294967296}$	.00000000023283064365386962890625	.000000006103515625
			$\frac{1}{4294967296}$	.00000000023283064365386962890625	.000000006103515625	$\frac{1}{8589934592}$	.000000000116415321826934814453125	.0000000030517578125
			$\frac{1}{8589934592}$	.000000000116415321826934814453125	.0000000030517578125	$\frac{1}{17179869184}$	.0000000000582076609134674072265625	.00000000152587890625
			$\frac{1}{17179869184}$	.0000000000582076609134674072265625	.00000000152587890625	$\frac{1}{34359738368}$	.00000000002910383045673370361328125	.000000000762939453125
			$\frac{1}{34359738368}$	.00000000002910383045673370361328125	.000000000762939453125	$\frac{1}{68719476736}$	.000000000014551915228366851806640625	.0000000003814697265625
			$\frac{1}{68719476736}$	.000000000014551915228366851806640625	.0000000003814697265625	$\frac{1}{137438953472}$	.0000000000072759576141834259033203125	.00000000019073486328125
			$\frac{1}{137438953472}$	.0000000000072759576141834259033203125	.00000000019073486328125	$\frac{1}{274877906944}$	.00000000000363797880709171295166015625	.000000000095367431640625
			$\frac{1}{274877906944}$	.00000000000363797880709171295166015625	.000000000095367431640625	$\frac{1}{549755813888}$	.000000000001818989403545856475830078125	.0000000000476837158203125
			$\frac{1}{549755813888}$	.000000000001818989403545856475830078125	.0000000000476837158203125	$\frac{1}{1099511627776}$	.0000000000009094947017729282379150390625	.00000000002384185791015625
			$\frac{1}{1099511627776}$	.0000000000009094947017729282379150390625	.00000000002384185791015625	$\frac{1}{2199023255552}$	.00000000000045474735088646411895751953125	.000000000011920928955078125
			$\frac{1}{2199023255552}$	.00000000000045474735088646411895751953125	.000000000011920928955078125	$\frac{1}{4398046511104}$	.000000000000227373675443232059478759765625	.0000000000059604644775390625
			$\frac{1}{4398046511104}$	.000000000000227373675443232059478759765625	.0000000000059604644775390625	$\frac{1}{8796093022208}$	.000000000000113686837721616029739379878125	.00000000000298023223876953125
			$\frac{1}{8796093022208}$	.000000000000113686837721616029739379878125	.00000000000298023223876953125	$\frac{1}{17592186044416}$	.0000000000000568434188608030148696899378125	.000000000001490116119384765625
			$\frac{1}{17592186044416}$	.0000000000000568434188608030148696899378125	.000000000001490116119384765625	$\frac{1}{35184372088832}$	.00000000000002842170943040150743484496895625	.0000000000007450580596923828125
			$\frac{1}{35184372088832}$	.00000000000002842170943040150743484496895625	.0000000000007450580596923828125	$\frac{1}{70368744177664}$	.000000000000014210854715200753717422484478125	.00000000000037252902984619140625
			$\frac{1}{70368744177664}$	.000000000000014210854715200753717422484478125	.00000000000037252902984619140625	$\frac{1}{140737488355328}$	.0000000000000071054273576003768587112422390625	.000000000000186264514923095703125
			$\frac{1}{140737488355328}$	.0000000000000071054273576003768587112422390625	.000000000000186264514923095703125	$\frac{1}{281474976710656}$	.0000000000000035527136788001884293562111953125	.0000000000000931322574615478515625
			$\frac{1}{281474976710656}$	.0000000000000035527136788001884293562111953125	.0000000000000931322574615478515625	$\frac{1}{562949953421312}$	.0000000000000017763568394000942146781059765625	.00000000000004656612873077392578125
			$\frac{1}{562949953421312}$	.0000000000000017763568394000942146781059765625	.00000000000004656612873077392578125	$\frac{1}{1125899906842624}$	.0000000000000008881784197000471073390529878125	.000000000000023283064365386962890625
			$\frac{1}{1125899906842624}$	.0000000000000008881784197000471073390529878125	.000000000000023283064365386962890625	$\frac{1}{2251799813685248}$	.0000000000000004440892098500235536695264890625	.0000000000000116415321826934814453125
			$\frac{1}{2251799813685248}$	.0000000000000004440892098500235536695264890625	.0000000000000116415321826934814453125	$\frac{1}{4503599627370496}$	.00000000000000022204460492501177683476324453125	.00000000000000582076609134674072265625
			$\frac{1}{4503599627370496}$	.00000000000000022204460492501177683476324453125	.00000000000000582076609134674072265625	$\frac{1}{9007199254740992}$	.000000000000000111022302462505888417381622265625	.000000000000002910383045673370361328125
			$\frac{1}{9007199254740992}$	.000000000000000111022302462505888417381622265625	.000000000000002910383045673370361328125	$\frac{1}{18014398509481984}$	.000000000000000055511151231252944208690611328125	.0000000000000014551915228366851806640625
			$\frac{1}{18014398509481984}$	.000000000000000055511151231252944208690611328125	.0000000000000014551915228366851806640625	$\frac{1}{36028797018963968}$	.0000000000000000277555756156264710443453056640625	.00000000000000072759576141834259033203125
			$\frac{1}{36028797018963968}$	.0000000000000000277555756156264710443453056640625	.00000000000000072759576141834259033203125	$\frac{1}{72057594037927936}$	.00000000000000001387778780781323552217265283203125	.000000000000000363797880709171295166015625
			$\frac{1}{72057594037927936}$	.00000000000000001387778780781323552217265283203125	.000000000000000363797880709171295166015625	$\frac{1}{144115188075855872}$	.000000000000000006938893903906617761086326416015625	.0000000000000001818989403545856475830078125
			$\frac{1}{144115188075855872}$	.000000000000000006938893903906617761086326416015625	.0000000000000001818989403545856475830078125	$\frac{1}{288230376151711744}$	.0000000000000000034694469519533088805431632080078125	.00000000000000009094947017729282379150390625
			$\frac{1}{288230376151711744}$	.0000000000000000034694469519533088805431632080078125	.00000000000000009094947017729282379150390625	$\frac{1}{576460752303423488}$	.00000000000000000173472347597665444027158160400390625	.000000000000000045474735088646411895751953125
			$\frac{1}{576460752303423488}$	.00000000000000000173472347597665444027158160400390625	.000000000000000045474735088646411895751953125	$\frac{1}{1152921504606846976}$	.000000000000000000867361737988327220135790580201953125	.0000000000000000227373675443232059478759765625
			$\frac{1}{1152921504606846976}$	.000000000000000000867361737988327220135790580201953125	.0000000000000000227373675443232059478759765625	$\frac{1}{2305843009213693952}$	.0000000000000000004336808689941636100678952901009765625	.0000000000000000113686837721616029739379878125
			$\frac{1}{2305843009213693952}$	.0000000000000000004336808689941636100678952901009765625	.0000000000000000113686837721616029739379878125	$\frac{1}{4611686018427387904}$	.00000000000000000021684043449708180503394764505048828125	.00000000000000000568434188608030148696899378125
			$\frac{1}{4611686018427387904}$	.00000000000000000021684043449708180503394764505048828125	.00000000000000000568434188608030148696899378125	$\frac{1}{9223372036854775808}$	.000000000000000000108420217248540902516973822525244140625	.000000000000000002842170943040150743484496895625
			$\frac{1}{9223372036854775808}$	.000000000000000000108420217248540902516973822525244140625	.000000000000000002842170943040150743484496895625	$\frac{1}{18446744073709551616}$	.000000000000000000054210108624270451258486911261220703125	.0000000000000000014210854715200753717422484496895625
			$\frac{1}{18446744073709551616}$	.000000000000000000054210108624270451258486911261220703125	.0000000000000000014210854715200753717422484496895625			

## ALPHABETICAL INDEX

	Page
<b>Abrasive Cloth</b> ... ..	<b>192</b>
<b>Accessories, Lighting Fitting</b> ... ..	<b>639-680</b>
Switchboard ... ..	<b>403</b>
Telephone ... ..	<b>846-849</b>
<b>A.C. Motors</b> ... ..	<b>724-729</b>
Fractional H.P. ... ..	<b>746-749</b>
<b>Accumulators</b> ... ..	<b>799-800</b>
<b>Adaptable Fixing Saddles, Magnet Wiring Systems</b> ... ..	<b>241</b>
Junction Boxes, Conduit ... ..	<b>276</b>
<b>Adaptors, Conduit</b> ... ..	<b>298</b>
Lamp ... ..	<b>483</b>
Oil Lamp ... ..	<b>653</b>
<b>Adjustable Switches and Socket Outlets</b> ... ..	<b>441-442</b>
<b>Aerial Cables</b> ... ..	<b>108</b>
Fuses ... ..	<b>428</b>
<b>Air Circuit Breakers</b> ... ..	<b>378-381</b>
<b>Air-cooled Transformers</b> ... ..	<b>695-697</b>
<b>Alarm Bells</b> ... ..	<b>762-763</b>
<b>All-insulated Switch Fuses</b> ... ..	<b>338</b>
<b>Ambulance Bells</b> ... ..	<b>763</b>
<b>Ammeters, Moving Coil</b> ... ..	<b>707-709</b>
(Portable) ... ..	<b>711</b>
Moving Iron ... ..	<b>703-706</b>
(Portable) ... ..	<b>710</b>
<b>Ammeter Switches</b> ... ..	<b>393-394</b>
<b>Angle Plates</b> ... ..	<b>213</b>
<b>Angle Tee Inspection Fittings, Conduit</b> ... ..	<b>273-274</b>
<b>Anti-Dazzle Automobile Headlight Lamps</b> ... ..	<b>537-539</b>
<b>Anti-Vibrators, Lighting Fitting</b> ... ..	<b>647</b>
<b>Architectural Lamps</b> ... ..	<b>519-520</b>
Lampholders ... ..	<b>494</b>
<b>Armature Sleeving</b> ... ..	<b>178</b>
Winding Wires ... ..	<b>167-177</b>
<b>Artificial Daylight Fittings</b> ... ..	<b>574-575</b>
<b>Augers, Screw (Eyed)</b> ... ..	<b>223</b>
<b>Automatic Battery Cut-In and Cut-Out</b> ... ..	<b>382</b>
Shutters, Exhaust Fan ... ..	<b>901</b>
Switch Plugs ... ..	<b>461</b>
Telephones ... ..	<b>838-840</b>
Telephones, Private Exchange ... ..	<b>840-843</b>
<b>Automobile Anti-Dazzle Headlight Lamps</b> ... ..	<b>537-539</b>
Dashboard Lamps ... ..	<b>535-544</b>
Headlight Lamps ... ..	<b>535-544</b>
Interior Lighting Lamps ... ..	<b>535-544</b>
Tail Lamps ... ..	<b>535-544</b>
Twin Filament Lamps ... ..	<b>538-539</b>
<b>Back Plate Covers, "Magnet" Wiring Systems</b> ... ..	<b>232</b>
<b>Plates, "Magnet" Wiring Systems</b> ... ..	<b>232</b>
Outlet Inspection Bends, Conduit ... ..	<b>256</b>
<b>Badminton Lighting Fittings</b> ... ..	<b>611</b>
<b>Bakelite Bells</b> ... ..	<b>759-760</b>
Bell Pushes ... ..	<b>764-765</b>
Bell Transformers ... ..	<b>791</b>
Buzzers ... ..	<b>760</b>
Ceiling Roses ... ..	<b>430</b>
Junction Boxes for Wiring Systems ... ..	<b>235</b>
Lampholders ... ..	<b>490-492</b>
Switch Lampholders ... ..	<b>491</b>
Switch Plates ... ..	<b>450-451</b>
<b>Ball Fittings</b> ... ..	<b>654-655</b>



## ALPHABETICAL INDEX—(Continued)

	Page
Bars, Earthing ... ..	233
Bases, Fuse ... ..	427-428
Batteries, Dry ... ..	796-798
Battery Boxes ... ..	795
Call Telephones ... ..	823-824
Call Telephones, Mine Type ... ..	830
Cut-In and Cut-Out ... ..	382
Ringing Bells ... ..	761
Bell and Telephone Wires ... ..	149-151
Fitter's Tools ... ..	224
Flexible Cord ... ..	152
Foot Press Contacts ... ..	766
Indicators, Replacement Type ... ..	778-780
Pendulum Indicators ... ..	776-777
Pushes, Bakelite ... ..	764-765
Pushes, High Voltage ... ..	772
Pushes, Metal ... ..	766-771
Pushes, Watertight ... ..	770
Transformers ... ..	791
Bells, Ambulance ... ..	763
Bakelite ... ..	759-760
Battery Ringing ... ..	761
Car Type ... ..	761
Gate Pull ... ..	775
High Voltage ... ..	762
Ironclad Weatherproof ... ..	762-763
Low Voltage ... ..	761
Mine ... ..	811-812
Nurses' Sets ... ..	761
Telephone Extension ... ..	853
Traction Type ... ..	761
Belts, Linesman's Safety ... ..	218
Benders, Conduit ... ..	312
" Benflux " Reflectors ... ..	570
Black Enamel ... ..	315
Binding Screws ... ..	809-810
Tapes, Armature ... ..	178
Terminals ... ..	809-810
Wires ... ..	161-162
Biscuit Rings, Conduit " Silverlac " ... ..	272
Bits ... ..	223
Bitumen ... ..	194
Blocks and Falls, Linesman's ... ..	225
Blocks, Wood ... ..	667-669
Blow Lamps ... ..	219
Braces, Ratchet ... ..	223
Bracket and Pendant Boxes, Conduit ... ..	278
Fans ... ..	860-873
Fittings, Indoor Lighting ... ..	670
Brackets, Chimney, Iron ... ..	214
Eaves, Iron ... ..	215
Sewing Machine Lighting ... ..	607
Wall, Iron ... ..	212
Watertight Lighting Fitting ... ..	609-610
Workshop Lighting ... ..	607-608
Bradawls ... ..	224
Braided Aerial Cables ... ..	108
Breakages, Lamps in Transit ... ..	505
Boards, Distribution ... ..	426
Fuse ... ..	423-425

## ALPHABETICAL INDEX—(Continued)

	Page
Bobbins, Cut-Out ... ..	395
White Porcelain ... ..	202
Bolts, Insulator ... ..	209-210
Ragged ... ..	216
Switchboard Fixing ... ..	401
Bolt Switches ... ..	447
Bonding Nipples, Conduit ... ..	298
Boxes, Battery ... ..	795
Switch (Wood) ... ..	668
Brass Junction Boxes for Wiring Systems ... ..	232
Lampholders ... ..	485-488
British Standard Wire Sizes ... ..	157-160
Bulkhead Glasses ... ..	693
Lighting Fittings ... ..	595-599
Burglar Alarm Contacts ... ..	773-774
Busbar Chambers, Ironclad Switchgear ... ..	354
Clamps, Switchboard ... ..	402
Insulators ... ..	400
Busbars, Switchboard ... ..	404
Bushed Spout Junction Boxes ... ..	270
Bushes, Conduit ... ..	299-300
Lighting Fitting ... ..	642
Buttons, Flexible ... ..	200
Buzzers, Bakelite ... ..	760
<b>Cable Box Glands ... ..</b>	<b>351-352</b>
Boxes, Ironclad ... ..	350
Clamps, Armoured ... ..	352
Connectors ... ..	399
Couplings and Connectors ... ..	481
Covering, Steel ... ..	238
Drums ... ..	15
Drums, Portable ... ..	241
End Pieces ... ..	401
Formulae ... ..	155
Racks, Cast Iron ... ..	185-186
Separator Boxes, Conduit ... ..	275
Suspenders ... ..	198
<b>Cables and Wires ... ..</b>	<b>14-155</b>
Braided Aerial ... ..	108
Cargo and Stage Flexible ... ..	144
C.M.A., 600-2,500 Meg. Grades, Single Core ... ..	22-33
Twin Core ... ..	34-49
Three Core ... ..	50-61
C.M.A., 660 Volt Grade, Single Core ... ..	62-67
Twin Core ... ..	68-73
Three Core ... ..	74-79
C.M.A., H.T. and E.H.T. Grades, Braided ... ..	80-81
Lead Covered ... ..	82-83
C.M.A., T.R.S. 600-2,500 Meg. Grades ... ..	84-91
600 Volt Grade ... ..	92-95
C.M.A., T.R.S. (flexible) 600-2,500 Meg. Grades ... ..	96-103
600 Volt Grade ... ..	104-107
C.M.A., Dynamo, Flexible ... ..	143
Formulae ... ..	155
Lift, Flexible ... ..	144
Motor Car Starter ... ..	148
"Nonazo" Single Core ... ..	110-115
Twin Core ... ..	116-123
Three Core ... ..	124-130

## ALPHABETICAL INDEX—(Continued)

	Page
Cables and Wires, "Nonazo" T.R.S. ... ..	<b>131-132</b>
Lead Covered with Earthing Conductor ... ..	<b>133</b>
Neutral Connectors ... ..	<b>365</b>
P.J.B. ... ..	<b>109</b>
"Rhino" T.R.S. ... ..	<b>96-107</b>
Shot Firing ... ..	<b>145</b>
Telephone ... ..	<b>153-154</b>
Terms and Conditions of Sale ... ..	<b>14</b>
Candle Fittings ... ..	<b>658</b>
Type Lamps ... ..	<b>514-515</b>
Caps, Lamp, Standard Types ... ..	<b>504</b>
Carbon Filament Robertson Standard Lamp ... ..	<b>528</b>
Radiator Lamp ... ..	<b>528</b>
Cardboard Shades ... ..	<b>694</b>
Cargo and Stage Flexible Cables ... ..	<b>144</b>
Lighting Fittings ... ..	<b>600-602</b>
Carriers, Shade ... ..	<b>649-653</b>
Car Type Bells ... ..	<b>761</b>
Cast Iron Weatherproof Lighting Fittings ... ..	<b>586-590</b>
Catalogue Contents ... ..	<b>5</b>
Foreword ... ..	<b>3</b>
Ceiling Fans ... ..	<b>874-890</b>
Lighting Fittings, Enclosed ... ..	<b>634</b>
Plates ... ..	<b>643-645</b>
Roses, Bakelite ... ..	<b>430</b>
Roses, Hook Ring ... ..	<b>646</b>
Roses, Porcelain ... ..	<b>429</b>
Switches ... ..	<b>440</b>
Cells, Dry ... ..	<b>796-798</b>
Leclanché ... ..	<b>792-794</b>
Central Battery Telephones ... ..	<b>823</b>
Chains, Lighting Fitting ... ..	<b>657</b>
Change-over Switches ... ..	<b>342</b>
Channel Fuse-boards ... ..	<b>422</b>
Inspection Bends, Conduit ... ..	<b>254</b>
Inspection Elbows, Conduit ... ..	<b>257</b>
Inspection Tees, Conduit ... ..	<b>259</b>
Chatterton Compound ... ..	<b>194</b>
Chimney Equipment, Iron ... ..	<b>215</b>
China Unit Cut-outs ... ..	<b>397</b>
Unit Ironclad Fuseboards ... ..	<b>347-349</b>
Chisels, Cold ... ..	<b>222</b>
Wood ... ..	<b>222</b>
Choke, "Osira" Lamp ... ..	<b>557</b>
Christmas Tree Lamp Outfits ... ..	<b>547-548</b>
Circular Inspection Elbows, Conduit ... ..	<b>258</b>
Inspection Tees, Conduit ... ..	<b>260</b>
Circuit Breakers, Air ... ..	<b>378-381</b>
"Elf" Type ... ..	<b>380</b>
Line Contact ... ..	<b>373-377</b>
Oil ... ..	<b>383</b>
Clamps, Armoured Cable ... ..	<b>352</b>
Conduit Earthing ... ..	<b>303</b>
Earth Continuity ... ..	<b>233</b>
Switchboard Busbar ... ..	<b>402</b>
Cleats, Flat ... ..	<b>199</b>
Knob ... ..	<b>200</b>
Mining ... ..	<b>200</b>
"Wittonite" ... ..	<b>185-186</b>
Climbing Irons ... ..	<b>218</b>

## ALPHABETICAL INDEX—(Continued)

	Page
Clips and Saddles, Conduit ... ..	<b>304</b>
Clips, Brass and Zinc ... ..	<b>197</b>
Conduit Earthing ... ..	<b>302-303</b>
Earth Continuity ... ..	<b>233</b>
Fixing, for Circular Wires ... ..	<b>197</b>
Moulded Corner, for Wiring Systems ... ..	<b>237</b>
For "Magnet" Wiring Systems ... ..	<b>239</b>
Fuse ... ..	<b>422</b>
Girder, Conduit ... ..	<b>307</b>
Lighting Fitting ... ..	<b>639</b>
Shelf, Lighting Fitting ... ..	<b>673-675</b>
Cloth, Empire... ..	<b>179</b>
"Micanite" ... ..	<b>190</b>
Insulating ... ..	<b>179</b>
Clout Nails ... ..	<b>216</b>
C.M.A. Cables, 600-2,500 Meg. Grades, Single Core ... ..	<b>22-33</b>
Twin Core ... ..	<b>34-49</b>
Three Core ... ..	<b>50-61</b>
Cables, 660 Volt Grade, Single Core ... ..	<b>62-67</b>
Twin Core ... ..	<b>68-73</b>
Three Core ... ..	<b>74-79</b>
Cables, T.R.S. 600-2,500 Meg. Grades ... ..	<b>84-91</b>
660 Volt Grade ... ..	<b>92-95</b>
Cables, H.T. & E.H.T. Grades, Braided ... ..	<b>80-81</b>
Lead Covered ... ..	<b>82-83</b>
Cables, T.R.S. (Flexible), 600-2,500 Meg. Grades ... ..	<b>96-103</b>
660 Volt Grade ... ..	<b>104-107</b>
Dynamo Flexible Cables ... ..	<b>143</b>
Coach Screws ... ..	<b>216</b>
Cooker Control Switches ... ..	<b>339-340</b>
"Coiled-coil" "Osram" Lamps ... ..	<b>506-511</b>
Collar Extension Pieces, Conduit ... ..	<b>273</b>
Coloured and Decorated Shades ... ..	<b>689-692</b>
Colour Sprayed Lamps ... ..	<b>520</b>
Comparison Table, Wires and Cables ... ..	<b>16</b>
Concentrating Reflectors ... ..	<b>563</b>
Condenser, "Osira" Lamp ... ..	<b>557</b>
Conduit Adaptable Junction Boxes ... ..	<b>276-277</b>
Adaptors ... ..	<b>298</b>
Angle Tee Inspection Fittings ... ..	<b>273-274</b>
Back Outlet Inspection Bends ... ..	<b>256</b>
Benders ... ..	<b>312</b>
Biscuit Rings, "Silverlac" ... ..	<b>272</b>
Bonding Nipples ... ..	<b>298</b>
Box Rubber Rings ... ..	<b>265</b>
Bracket and Pendant Boxes ... ..	<b>278</b>
Cable Separator Boxes ... ..	<b>275</b>
Channel Inspection Bends ... ..	<b>254</b>
Channel Inspection Elbows ... ..	<b>257</b>
Channel Inspection Tees ... ..	<b>259</b>
Circular Inspection Elbows ... ..	<b>258</b>
Circular Inspection Tees ... ..	<b>260</b>
Clips and Saddles ... ..	<b>304</b>
Collar Extension Pieces ... ..	<b>273</b>
Connecting Bases ... ..	<b>308</b>
Connection Boxes ... ..	<b>307</b>
Connectors ... ..	<b>308</b>
Crampets ... ..	<b>306</b>
Dimensions and Weights ... ..	<b>247</b>
Earthing Clamps ... ..	<b>303</b>

## ALPHABETICAL INDEX—(Continued)

	Page
Conduit Earthing Clips ... ..	<b>302-303</b>
Fittings, Pin-Grip ... ..	<b>260</b>
Flush Switchboxes ... ..	<b>286-289</b>
Girder Clips ... ..	<b>307</b>
Half Normal Bends ... ..	<b>255</b>
Heavy Gauge Screwed ... ..	<b>250</b>
Inspection Couplers ... ..	<b>253</b>
Inspection Normal Bends ... ..	<b>256</b>
Junction Box Covers ... ..	<b>261</b>
Junction Box Fibre covers ... ..	<b>265</b>
Junction Box Hooks ... ..	<b>261</b>
Junction Boxes, Bushed Spout ... ..	<b>270</b>
Junction Boxes, Round ... ..	<b>262-265</b>
Junction Boxes, Oblong ... ..	<b>267-268</b>
Junction Boxes, Universal ... ..	<b>269</b>
Lock Nuts ... ..	<b>300-301</b>
Looping Boxes ... ..	<b>272</b>
Multiple Switch Boxes ... ..	<b>286-295</b>
Normal Bends ... ..	<b>255</b>
Outlet Couplers ... ..	<b>253</b>
Plain Light Gauge ... ..	<b>249</b>
Plugs ... ..	<b>301</b>
Reducers ... ..	<b>299</b>
Running Couplers ... ..	<b>251</b>
Screwed Collar Extension Pieces ... ..	<b>273</b>
Semi-recessed Switch Boxes ... ..	<b>282-284</b>
Short Arm Elbows ... ..	<b>258</b>
Short Arm Tees ... ..	<b>260</b>
Solid Couplers ... ..	<b>251</b>
Solid Elbows ... ..	<b>257</b>
Solid Tees ... ..	<b>259</b>
Split Couplers ... ..	<b>251</b>
Split Elbows ... ..	<b>258</b>
Split Normal Bends ... ..	<b>254</b>
Split Tees ... ..	<b>260</b>
Steel Brackets ... ..	<b>278</b>
Surface Switch Boxes ... ..	<b>285</b>
Switch Boxes, Surface ... ..	<b>285</b>
Switch-plug Boxes ... ..	<b>297</b>
Thread Equivalents ... ..	<b>248</b>
Tools ... ..	<b>309-315</b>
Top Outlet Inspection Elbows ... ..	<b>258</b>
Top Outlet Inspection Tees ... ..	<b>260</b>
Tube Ends and Bushes ... ..	<b>299-300</b>
Tube Holders ... ..	<b>306</b>
Wall Plug Boxes ... ..	<b>296</b>
Watertight Junction Boxes ... ..	<b>279-280</b>
Watertight Switch Boxes ... ..	<b>281</b>
Wiring Capacities ... ..	<b>248</b>
Connecting Bases, Conduit ... ..	<b>308</b>
Connection Boxes, Conduit ... ..	<b>307</b>
Connectors, Cable ... ..	<b>399</b>
Conduit ... ..	<b>308</b>
Flexible ... ..	<b>482</b>
For "Magnet" Wiring Systems ... ..	<b>241</b>
Ships' ... ..	<b>481</b>
Contacts, Burglar Alarm ... ..	<b>773-774</b>
Fire Alarm ... ..	<b>858</b>
Mine Signalling ... ..	<b>815</b>
Contents, Catalogue ... ..	<b>5</b>

## ALPHABETICAL INDEX—(Continued)

	Page
Continuity Rings and Clamps, Wiring Systems ... ..	<b>233</b>
Control Boards, Emergency Lighting ... ..	<b>410</b>
“Coolicon” Reflectors ... ..	<b>571</b>
Copper Wires, Binding ... ..	<b>161</b>
British Standard Sizes ... ..	<b>159-160</b>
Cord Grips ... ..	<b>639</b>
Ornaments ... ..	<b>648</b>
Shorteners ... ..	<b>648</b>
Cords, Flexible, Colour Range ... ..	<b>134</b>
“Domestaflex” ... ..	<b>141</b>
Domestic Appliance ... ..	<b>141</b>
Medium I.V.R. ... ..	<b>136-138</b>
P. & V.I.R. ... ..	<b>140</b>
P.I.R. ... ..	<b>139</b>
Telephone ... ..	<b>856</b>
Thin V.R.I. ... ..	<b>135</b>
T.R.S. ... ..	<b>142-143</b>
20 Mil. I.P.R. ... ..	<b>138</b>
“Vicma” D.V.I.R. ... ..	<b>141</b>
Wiring Tables ... ..	<b>134</b>
Corner Pieces (Moulded) for Wiring Systems ... ..	<b>237</b>
Counterweight Fittings, Pendant ... ..	<b>660-663</b>
Coupling Bars, Switch ... ..	<b>453</b>
Unit, Mines Telephone ... ..	<b>837</b>
Couplings and Connectors, Cable ... ..	<b>481</b>
Lighting Fitting ... ..	<b>641</b>
Covers, Conduit Junction Box ... ..	<b>261</b>
Switch ... ..	<b>453</b>
Crampets, Conduit ... ..	<b>306</b>
Cut Glass Globes ... ..	<b>688</b>
Cut-in and Cut-out, Battery ... ..	<b>382</b>
Cut-outs, Bobbin ... ..	<b>395</b>
China Unit ... ..	<b>397</b>
Handguard ... ..	<b>396</b>
Ironclad ... ..	<b>359-365</b>
Porcelain ... ..	<b>428</b>
<b>Dashboard Automobile Lamps ... ..</b>	<b>535-544</b>
Daylight Blue Sign Lamps ... ..	<b>522</b>
Fittings, “Lamplough” ... ..	<b>578</b>
Fittings, “Wedgwood” ... ..	<b>576-577</b>
Lamps ... ..	<b>512</b>
D.C. Motors ... ..	<b>730-733</b>
Motors, Fractional H.P. ... ..	<b>750-751</b>
Switchboards ... ..	<b>406-409</b>
Decoration Lamp Outfits ... ..	<b>547-548</b>
Delivery Service, “Osram” Lamps ... ..	<b>505</b>
Detectoscopes ... ..	<b>718</b>
Dimensions and Weights of Conduit ... ..	<b>247</b>
Direct Working Telephones ... ..	<b>822</b>
Mine Type ... ..	<b>836</b>
Dispersive Reflectors... ..	<b>558</b>
Steel ... ..	<b>560</b>
Distributing Organisation, G.E.C. ... ..	<b>9</b>
Distributing Reflectors ... ..	<b>567</b>
Distribution Boards ... ..	<b>426</b>
“Domestaflex” Flexible Cords ... ..	<b>141</b>
Domestic Appliance Flexibles ... ..	<b>141</b>
Door Switches ... ..	<b>447</b>
Draw-in Tapes ... ..	<b>315</b>

## ALPHABETICAL INDEX—(Continued)

	Page
Draw Tongs ... ..	218
Drilling Particulars, Ironclad Fuse Boards ... ..	422
Dry Cells ... ..	796-798
" Duoflux " Floodlights ... ..	579
Dynamo Flexible Cables ... ..	143
Earth Continuity Clamps ... ..	233
Clips ... ..	233
Rings ... ..	233
Testing Set ... ..	716
Earthing Bars, " Magnet " Wiring Systems ... ..	233
Clips, Conduit ... ..	302-303
Clips, Telephone... ..	854
Devices ... ..	808
Ebonite ... ..	183-184
Elbows, Lighting Fitting ... ..	641
Electrolier Wires ... ..	146
" Elf " Type Circuit Breakers ... ..	380
Elliptical Angle Reflectors ... ..	566
Emergency Lighting Control Boards ... ..	410
Empire Cloth ... ..	179
Sleeving ... ..	180
Tape ... ..	179-180
Enamel, Insulating ... ..	182
Enamelled Iron Shades ... ..	694
Enclosed Lighting Fittings ... ..	626-634
End Pieces, Cable ... ..	401
" Equiluxo " Globes ... ..	682
Hemispheres ... ..	682
Reflectors ... ..	682
Exhaust Fans ... ..	894-908
Exploders, Mine ... ..	817-818
Extra Charges, " Osram " Lamps ... ..	504
Eye Spikes ... ..	213
" Fairyland " Strip ... ..	496-497
Fancy Shades ... ..	684-687
Fans, Bracket... ..	860-873
Ceiling ... ..	874-890
Exhaust ... ..	894-908
Railway ... ..	876-878
Ship ... ..	874-876
Table ... ..	860-873
Spare Parts ... ..	909-933
Fan Speed Regulators, Ceiling ... ..	891-893
Table ... ..	878
Feeder Pillars... ..	411
Fibre Covers, Conduit Junction Box ... ..	265
Fibre Saddles for Magnet Wiring Systems ... ..	237
Field Breaking Switches ... ..	392
Finials, Lightning Conductor ... ..	803
Fire Alarm Bells ... ..	762-763
Contacts ... ..	858
Pushes ... ..	858
Fitting, Switchboard Indicator Lamp ... ..	401
Fittings, Artificial Daylight ... ..	574-575
Ball ... ..	654-655
Candle ... ..	658
Floodlight ... ..	637-638
Lighting ... ..	553-638

## **ALPHABETICAL INDEX—(Continued)**

	Page
Fixers, Shade ... ..	<b>653</b>
Fixing Clips, "Magnet" Wiring Systems ... ..	<b>237</b>
Fixing Pins, "Magnet" Wiring Systems ... ..	<b>237</b>
Fixing Rings, Flush Switch ... ..	<b>452</b>
Socket Outlet ... ..	<b>452</b>
Fixing Saddles, Adaptable, for "Magnet" Wiring Systems ... ..	<b>241</b>
Fixing Screws for "Magnet" Wiring Systems ... ..	<b>239</b>
Flameproof Switches with Fuses ... ..	<b>343</b>
Flanges, Switch ... ..	<b>453</b>
Flasher Lampholders ... ..	<b>498</b>
Flashers, Motor-driven ... ..	<b>499</b>
Thermic ... ..	<b>498</b>
Flashlight Lamps ... ..	<b>545-546</b>
Flexible, Bell ... ..	<b>152</b>
Colour Range ... ..	<b>134</b>
C.M.A. P.I.R. ... ..	<b>139</b>
C.M.A. P. & V.I.R. ... ..	<b>140</b>
C.M.A. T.R.S. ... ..	<b>142-143</b>
Domestic Appliance ... ..	<b>141</b>
Lift ... ..	<b>144</b>
Medium I.V.R. ... ..	<b>136-138</b>
Motor Car Ignition ... ..	<b>146</b>
Motor Car Lighting ... ..	<b>146-147</b>
Motor Car Starter ... ..	<b>148</b>
20 Mil. I.P.R. ... ..	<b>138</b>
"Vicma" D.V.I.R. ... ..	<b>141</b>
Wiring Tables ... ..	<b>134</b>
Buttons ... ..	<b>200</b>
Connectors ... ..	<b>482</b>
Cord Grips ... ..	<b>639</b>
Cord Ornaments... ..	<b>648</b>
Cord Shorteners ... ..	<b>648</b>
Cords, Thin, V.R.I. ... ..	<b>135</b>
Tubing (Steel) ... ..	<b>225</b>
Floodlight Fittings ... ..	<b>637-638</b>
Floodlighting Lamps "Osira" ... ..	<b>552</b>
Floodlights, "Duoflux" ... ..	<b>579</b>
Garage ... ..	<b>580</b>
Flower Bed Lighting Fittings ... ..	<b>613</b>
Flush Switches and Socket Outlets, Adjustable ... ..	<b>441-442</b>
Flush Switch Fixing Rings ... ..	<b>452</b>
Flux for Soldering ... ..	<b>193</b>
Foreword, Catalogue ... ..	<b>3</b>
Fractional H.P. Motors ... ..	<b>743-758</b>
Fuses, Aerial ... ..	<b>428</b>
Fuse Bases and Carriers ... ..	<b>427-428</b>
Fuse Boards ... ..	<b>423-425</b>
Clips ... ..	<b>422</b>
Wire ... ..	<b>165-166</b>
Wire, Fusing Currents ... ..	<b>165</b>
Wiring Table ... ..	<b>372</b>
Fuses, Channel ... ..	<b>422</b>
Ironclad China Unit ... ..	<b>347-349</b>
Telephone ... ..	<b>855</b>
Galleries, Lighting Fitting ... ..	<b>649-651</b>
Garage Floodlights ... ..	<b>580</b>
Gate Bell Pulls ... ..	<b>775</b>
Gate Switches, Ironclad ... ..	<b>346</b>
Gauge Plates, Plug ... ..	<b>482</b>



## ALPHABETICAL INDEX—(Continued)

	Page
Geared Motors, Fractional H.P. ....	<b>752-753</b>
G.E.C. Distributing Organisation ....	<b>9</b>
General Catalogue Sections ....	<b>13</b>
Overseas Organisation ....	<b>10</b>
Terms and Conditions of Sale ....	<b>11-12</b>
Trade Names ....	<b>13</b>
Works and Organisation ....	<b>6</b>
"Gecoray" Industrial Reflectors ....	<b>559</b>
Reflectors ....	<b>615-623</b>
General Catalogue Sections, G.E.C. ....	<b>13</b>
Gimbals, Lighting Fitting ....	<b>646</b>
Gimlets ....	<b>223</b>
Girder Clips, Conduit ....	<b>307</b>
Glands, Cable Box ....	<b>351-352</b>
"Magnet" Wiring System ....	<b>234</b>
Ironclad Switchgear ....	<b>353</b>
"Glassteel" Reflectors ....	<b>572</b>
Glassware, Bulkhead Glasses ....	<b>693</b>
Coloured and Decorated Shades ....	<b>689-692</b>
Cut Glass Globes ....	<b>688</b>
"Equiluxo" Globes ....	<b>682</b>
"Equiluxo" Hemispheres ....	<b>682</b>
"Equiluxo" Reflectors ....	<b>682</b>
Fancy Shades ....	<b>684-687</b>
Globes ....	<b>693</b>
"Holophane" Reflectors ....	<b>683</b>
"Magnalite" Reflectors ....	<b>682</b>
"Superlux" Globes ....	<b>681</b>
"Superlux" Hemispheres ....	<b>681</b>
"Superlux" Reflectors ....	<b>681</b>
Well Glasses ....	<b>693</b>
Globes and Well Glasses ....	<b>693</b>
"Superlux" ....	<b>681</b>
Gloves and Gauntlets, Rubber ....	<b>195</b>
Greyhound Track Lighting Fittings ....	<b>612</b>
Grips, Cord ....	<b>639</b>
Guards, Wire, Lighting Fitting ....	<b>659</b>
<b>Hacksaws</b> ....	<b>314</b>
Half Normal Bends, Conduit ....	<b>255</b>
Hammers ....	<b>222</b>
Handguard Cut-outs ....	<b>396</b>
Handlamps, Inspection ....	<b>603-606</b>
Miners' ....	<b>546</b>
Hand Shutters, Exhaust Fan ....	<b>901</b>
Handwheel Pillars, Switchboard ....	<b>405</b>
Headlight Lamps, Anti-dazzle Automobile ....	<b>537-539</b>
Automobile Standard ....	<b>535-544</b>
Heavy Gauge Conduit, Screwed ....	<b>250</b>
Hemisphere Glassware, "Equiluxo" ....	<b>682</b>
"Superlux" ....	<b>681</b>
High Voltage Bell Pushes ....	<b>772</b>
Bells ....	<b>762</b>
"Holophane" Reflectors ....	<b>683</b>
Hook Plates, Lighting Fitting ....	<b>645</b>
Rings, Ceiling Rose ....	<b>646</b>
Hooks, Conduit Junction Box ....	<b>261</b>
Lighting Fitting ....	<b>640</b>
"S" ....	<b>656</b>
Suspending, Lighting Fitting ....	<b>639</b>

## ALPHABETICAL INDEX—(Continued)

	Page
Horizontal Switch Plugs (Box) ... ..	<b>461</b>
H.T. Line Insulators ... ..	<b>206</b>
"Huntalite" Lamps... ..	<b>515</b>
Husks, Lighting Fitting ... ..	<b>648</b>
Ignition, Flexible, Motor Car ... ..	<b>146</b>
Industrial Reflectors, "Gecoray" ... ..	<b>559</b>
Illuminating Engineering Service ... ..	<b>553</b>
Illumination Lampholders, "Wedge" Type ... ..	<b>495</b>
Meter ... ..	<b>718</b>
Indicators, Bell ... ..	<b>776-780</b>
Lift ... ..	<b>781</b>
Luminous Service ... ..	<b>782-786</b>
Visual Lamp ... ..	<b>812</b>
Indoor Lighting Bracket Fittings ... ..	<b>670</b>
Industrial Lighting Fittings... ..	<b>553-638</b>
Inspection Handlamps ... ..	<b>603-606</b>
Instrument Wires ... ..	<b>167-177</b>
Instruments, Measuring ... ..	<b>702-711</b>
Regulating ... ..	<b>719</b>
Testing ... ..	<b>712-718</b>
Inspection Couplers, Conduit ... ..	<b>253</b>
Normal Bends, Conduit ... ..	<b>256</b>
Insulating Hooks, Lighting Fitting ... ..	<b>640</b>
Paper ... ..	<b>187</b>
Paper, "Micanite" ... ..	<b>190</b>
Varnishes, Paints and Enamels ... ..	<b>181-182</b>
Insulation Testing Sets ... ..	<b>713-715</b>
Insulator Bolts ... ..	<b>209-210</b>
Insulators, Brown Stoneware ... ..	<b>203</b>
Busbar ... ..	<b>400</b>
Captive ... ..	<b>207</b>
Complete with Ironwork ... ..	<b>216</b>
Low Tension ... ..	<b>205</b>
High Tension ... ..	<b>206</b>
Line, White Porcelain ... ..	<b>205-206</b>
Meter Board Type ... ..	<b>200</b>
Pot-head, White Porcelain ... ..	<b>208</b>
Shackle ... ..	<b>201</b>
Wireless ... ..	<b>202</b>
With Cemented Bolts ... ..	<b>207</b>
"Wittonite" ... ..	<b>186</b>
"Intensolux" Reflectors ... ..	<b>594</b>
Intercommunication Telephones ... ..	<b>825-827</b>
Interior Lighting Automobile Lamps ... ..	<b>535-544</b>
Interlocking Switch Plugs (Box) ... ..	<b>460</b>
Ironclad Cable Boxes ... ..	<b>350</b>
Cut-outs ... ..	<b>359-365</b>
Fuse and Distribution Boards, Drilling Particulars ... ..	<b>422</b>
Fuseboards, China Unit ... ..	<b>347-349</b>
Gate Switches ... ..	<b>346</b>
Switches ... ..	<b>335-346</b>
Switches with Interlocked Plugs ... ..	<b>344</b>
Switchgear Busbar Chambers ... ..	<b>354</b>
Switchgear Glands ... ..	<b>353</b>
Weatherproof Bells ... ..	<b>762-763</b>
Irons, Pole-climbing ... ..	<b>218</b>
Soldering ... ..	<b>219</b>
Ironwork, Shackle ... ..	<b>211</b>
Isolating Links ... ..	<b>412</b>

## ALPHABETICAL INDEX—(Continued)

	Page
Joint Box Compound ... ..	194
Joiner's Tents ... ..	225
Junction Bars, Lighting Fitting ... ..	655
Junction Box Covers, Conduit ... ..	261
Hooks, Conduit ... ..	261
Junction Boxes, Bakelite, "Magnet" Wiring Systems ... ..	235
Brass, "Magnet" Wiring Systems ... ..	232
Conduit, Adaptable ... ..	276-277
Conduit, Bushed Spout... ..	270
Conduit, Oblong... ..	267-268
Conduit, Round ... ..	262-265
Conduit, Universal ... ..	269
Conduit, Watertight ... ..	279-280
Porcelain ... ..	429
Telephone ... ..	851
"Wittomite," "Magnet" Wiring Systems ... ..	236
Knife Combination ... ..	221
Knuckle Joints, Lighting Fitting ... ..	654
Labels, Switch ... ..	453
Lacquered Screws ... ..	639
Lamp Adaptors ... ..	483
Cases, Motorists' ... ..	544
Caps, Standard Types ... ..	504
Fitting, Switchboard Indicator ... ..	401
Lampholders, Architectural Lamp ... ..	494
Bakelite ... ..	490-492
Brass ... ..	485-488
Illumination, "Wedge" type ... ..	495
Metal and Porcelain ... ..	493-494
Thermic Flasher... ..	498
Lamplocking Devices ... ..	489
"Lamplough," Daylight Fittings ... ..	578
Lamps, "Osira" ... ..	550-552
"Osram" (see "Osram" Lamps) ... ..	502-549
"Landor" Switches ... ..	436-439
"Landor Junior" Switches ... ..	433
"Landor" Senior Switches ... ..	443-446
Lanterns, Exterior Shop Lighting ... ..	581-582
Lead Alloy Saddles, "Magnet" Wiring Systems... ..	240
Leading-in Tubes ... ..	204
Leclanché Cells ... ..	792-794
Leatheroid ... ..	187
Lift Cables ... ..	144
Indicators ... ..	781
Light Gauge Conduit, Plain ... ..	249
Lighting Fitting Anti-vibrators ... ..	647
Bushes ... ..	642
Chains ... ..	657
Clips ... ..	639
Couplings ... ..	641
Counterweights ... ..	660-663
Elbows ... ..	641
Galleries ... ..	649-651
Gimbals ... ..	646
Hooks ... ..	640
Hook Plates ... ..	645
Husks ... ..	648
Insulating Hooks ... ..	640

## ALPHABETICAL INDEX—(Continued)

	Page
Lighting Fitting Loops ... ..	647
Nipples ... ..	640-642
Nozzles ... ..	640-641
Pull-down Handles ... ..	653
Rosettes ... ..	640
Shackles ... ..	646
Shade Carriers ... ..	649-653
Sockets ... ..	642
Suspending Hooks ... ..	639
Tubes ... ..	656
Lighting Fittings ... ..	553-638
Badminton ... ..	611
Bulkhead... ..	595-599
Cargo ... ..	600-602
Enclosed ... ..	626-634
Floodlight ... ..	637-638
Flower Bed ... ..	613
Greyhound Track ... ..	612
" Osira" Lamp ... ..	555-557
Porcelain ... ..	591-593
Ships' ... ..	583-585
Spare Glasses ... ..	614
Speedway Track ... ..	612
Sports ... ..	611-612
" Striplite " ... ..	674-678
Underwater ... ..	613
Lighting Flexible, Motor Cars ... ..	146-147
Lightning Arrestors, Telephone ... ..	855
Conductor Finials ... ..	803
Conductor Parts... ..	804-807
Limit Switches, Ironclad ... ..	345
Line Contact Circuit Breakers ... ..	373-377
Line Insulators ... ..	205-206
Linesmen's Detectors ... ..	717
Safety Belts ... ..	218
Links, Isolating ... ..	412
Local Angle Reflectors ... ..	569
Local Lighting Reflectors ... ..	568
Lock Nuts, Conduit ... ..	300-301
Loopin? Boxes, Conduit ... ..	272
Loops, Lighting Fitting ... ..	647
Low Voltage Bells ... ..	761
L.T. Accumulators ... ..	799-800
Luminous Service Indicators ... ..	782-786
" Magnalite " Reflectors ... ..	682
" Magnet " Wiring Systems ... ..	230-241
Magneto Generators, Telephone ... ..	854
Telephones ... ..	831-832
Telephones (Mines) ... ..	834-835
Main Switch-fuses and Splitters ... ..	421
Mats, Rubber ... ..	195
Mechanical Terminal Sockets ... ..	399
Measuring Instruments ... ..	702-711
Moving Iron ... ..	703-706
Moving Iron, Portable ... ..	710
Moving Coil ... ..	707-709
Moving Coil, Portable ... ..	711
" Megger " Ohmmeters ... ..	712
" Meg " Insulation Testing Sets ... ..	713-715

## ALPHABETICAL INDEX—(Continued)

	Page
Metal Bell Pushes ... ..	766-771
Switch Plates ... ..	664-667
Meter Board Insulators ... ..	200
Meter, Illumination ... ..	718
Meter Pillars, Switchboard ... ..	405
Mica ... ..	190
"Micanite" Sheet, Cloth and Paper ... ..	190
Micrometers ... ..	221
Mine Bells ... ..	811-812
Exploders ... ..	817-818
Rattler ... ..	813
Relays ... ..	813-814
Signal Pulls ... ..	816-817
Signalling Contacts ... ..	815
Signalling System ... ..	819-820
Tappers ... ..	815-816
Telephone Coupling Unit ... ..	837
Telephones, Battery Call ... ..	830
Telephones, Direct Working ... ..	836
Telephones, Magneto Call ... ..	834-835
Miners' Hand Lamps ... ..	546
Mining Telephone Switchboard ... ..	837
Motor Car Ignition Flexibles ... ..	146
Lighting Flexibles ... ..	146-147
Starter Cables ... ..	148
Motor-driven Flashers ... ..	499
Motor Resistances, Fractional H.P. ... ..	757-758
Motor Starters ... ..	735-742
Motors, A.C. ... ..	724-729
D.C. ... ..	730-733
Fractional H.P. ... ..	743-758
Polishing and Grinding ... ..	754-756
Motorists' Spare Lamp Cases ... ..	544
Moulded Corner Pieces, Wiring Systems ... ..	237
Clips for ... ..	237
Moving Coil Ammeters ... ..	707-709
(Portable) ... ..	711
Voltmeters ... ..	707-709
(Portable) ... ..	711
Moving Iron Ammeters ... ..	703-706
(Portable) ... ..	710
Voltmeters ... ..	703-706
(Portable) ... ..	710
Multiple Switch Boxes, Conduit ... ..	286-295
Multi-way Plug Adaptors ... ..	482
Music Stand Reflectors ... ..	679-680
Nails, Clout ... ..	216
Neon Sign Switches ... ..	341
Neutral Connectors, Cable ... ..	365
Nipples, Conduit ... ..	298
Lighting Fitting ... ..	640-642
"Nipper" Switches ... ..	431-432
Switch and Plate Assemblies ... ..	451
"Nonazo" Cables, Single Core ... ..	110-115
Twin Core ... ..	116-123
Three Core ... ..	124-130
T.R.S. ... ..	131-132
Lead Covered, with Earthing Conductor ... ..	133
Non-interlocking Switch Plugs ... ..	454-455

## ALPHABETICAL INDEX—(Continued)

	Page
Non-interlocking Switch Plugs (Box) ... ..	459
Non-interlocking Switch and Plug Combinations...	456-457
Normal Bends, Conduit ... ..	255
Nozzles, Lighting Fitting ... ..	640-641
Nurses' Bell Sets ... ..	761
<b>O</b> blong Conduit Junction Boxes ... ..	267-268
Ohmmeters, " Megger " ... ..	712
Oil Circuit Breakers ... ..	383
Oil-cooled Transformers ... ..	698-700
Oil Lamp Adaptors ... ..	653
Opal Lamps ... ..	511
Shades ... ..	694
Ornaments, Cord ... ..	648
" Osglim " Lamps ... ..	527
" Osira " Lamps ... ..	550-552
" Osira " Lamp Choke ... ..	557
Condenser ... ..	557
Floodlight Equipment ... ..	638
Lamp Fittings ... ..	555-557
" Osram " Lamps ... ..	502-549
Anti-dazzle Headlight ... ..	537-539
Architectural ... ..	519-520
Automobile ... ..	535-544
Bi-focal Headlight ... ..	539
Candle ... ..	514-515
Christmas Tree and Decoration ... ..	547-548
Clear Gasfilled ... ..	508-510
Clear Vacuum ... ..	513
" Coiled-Coil " ... ..	506-507
Colour Sprayed ... ..	521
Daylight ... ..	512
Decoration ... ..	521-523
Exciter ... ..	534
Festoon ... ..	541
Flashlight ... ..	545
Headlight (Gasfilled) ... ..	535-544
Indicator, Automobile ... ..	542
Indicator ... ..	527
Inside Colour Sprayed ... ..	523
Miners' Hand ... ..	546
Motor Bus ... ..	543-544
Natural Coloured Glass... ..	522
Opal ... ..	511
" Osglim " ... ..	527
" Pearl " ... ..	506-508
Photo Flood ... ..	517
Photographic ... ..	517
Projector ... ..	529-534
Ship ... ..	526
Side, Tail, and Dash ... ..	540-544
Sign ... ..	523-524
Spotlight ... ..	541
" Striplite " ... ..	519
Traction ... ..	525-526
Tubular (Clear and Opal) ... ..	518
Tubular, Automobile ... ..	542
Turn Down ... ..	516
Twin Filament Headlight ... ..	538-539
Ultra-Violet ... ..	549

## ALPHABETICAL INDEX—(Continued)

	Page
" Osram Lamps," White " Osram "	521
Extra Charges ... ..	504
Packing, Delivery and Transit ... ..	505
Standard Voltages ... ..	502
Standard Packages ... ..	503
Standard Caps ... ..	504
Outlet Couplers, Conduit ... ..	253
Plugs ... ..	462-465
Outlets and Plugs, Socket ... ..	466-480
Outfits, Christmas Tree Lamp ... ..	547-548
Overseas Organisation, G.E.C. ... ..	10
Overseas Socket Outlets and Plugs ... ..	500
Switches ... ..	501
<b>P.B.J. Cables ... ..</b>	<b>109</b>
Packing, Lamps ... ..	503
Wires and Cables ... ..	15
Paints, Insulating ... ..	182
Panels, Switchboard ... ..	404
Parabolic Angle Reflectors ... ..	564
Paraffin Wax ... ..	194
Parlour type Telephones ... ..	821
Pearl " Osram " Lamps ... ..	507-508
Pedal Switches, Ironclad ... ..	345
Pendulum Indicators, Bell ... ..	776-777
Pendant Lighting Fittings, Enclosed ... ..	626-634
Photographic Lamps ... ..	517
Pillars, Feeder ... ..	405
Switchboard Hand Wheel ... ..	405
Switchboard Meter ... ..	405
Pincers... ..	222
Pin-grip Conduit Fittings ... ..	260
Pipe Wrenches ... ..	314
Plates, Ceiling ... ..	643-645
Hook, Lighting Fitting ... ..	645
Pliers ... ..	220
Plug Adaptors, Multiway ... ..	482
Gauge Plates ... ..	482
Plugs, Conduit ... ..	301
Outlet ... ..	462-465
Voltmeter ... ..	394
Polarity Indicators ... ..	718
Polishing Motors, Fractional H.P. ... ..	754-756
Porcelain Ceiling Roses ... ..	429
Cut-outs ... ..	428
Junction Boxes ... ..	429
Lighting Fittings ... ..	591-593
Pole-arm Bolts ... ..	212
Pole-finding Paper ... ..	718
Pole Brackets ... ..	212
Climbing Irons ... ..	218
Roofs ... ..	212
Steps ... ..	215
Portable Ammeters ... ..	710-711
Cable Drums ... ..	241
Telephones ... ..	833
Transformers ... ..	701
Voltmeters ... ..	710-711
Pot-head Insulators ... ..	208
Pressboard ... ..	188

## ALPHABETICAL INDEX—(Continued)

	Page
Presspahn ... ..	187
Principles of Good Lighting ... ..	554
Private Automatic Telephone System ... ..	838-839
“ Projectolux ” Reflectors ... ..	594
Projector Lamps ... ..	529-534
Pull-down Handles, Lighting Fitting ... ..	653
Push Button Switches, ironclad ... ..	346
Switchboard ... ..	401
Pushes, Fire Alarm ... ..	858
Pygmy Sign Lamps ... ..	524
<b>Quadrant Switches</b> ... ..	<b>447</b>
<b>Radiator Lamps, Robertson</b> ... ..	<b>528</b>
Ragbolts ... ..	216
Railway Fans ... ..	876-878
Ratchets, Spring Balance ... ..	217
Straining ... ..	217
Rattler, Mine ... ..	813
Reading Desk Reflectors ... ..	679-680
Reamers ... ..	315
Reducers, Conduit ... ..	299
Reels, Brown Stoneware ... ..	203
White Porcelain ... ..	202
“Wittonite” ... ..	186
Regulating Instruments ... ..	719
Regulators, Resistance ... ..	391
Reflectors, “ Benflux ” ... ..	570
Concentrating ... ..	563
“ Coolicon ” ... ..	571
Dispersive ... ..	558
Distributing ... ..	567
Elliptical Angle ... ..	566
“ Equiluxo ” ... ..	682
“ Gecoray ” ... ..	615-625
“ Glassteel ” ... ..	572
“ Holophane ” ... ..	683
“ Intensolux ” ... ..	594
Local Angle ... ..	569
Local Lighting ... ..	568
“ Magnalite ” ... ..	682
Music Stand ... ..	679-680
“ Osira ” Lamp ... ..	555-556
Parabolic Angle ... ..	564
Projectolux ” ... ..	594
Reading Desk ... ..	679-680
“R.L.M.” ... ..	562
“ Saafux ” ... ..	561
Shop Window ... ..	671-678
Show Case ... ..	671-678
“ Striplite ” ... ..	674-678
“ Superlux ” ... ..	681
Vertical Elliptical ... ..	565
Relays, Mine ... ..	813-814
Remote Control ... ..	384
Signalling ... ..	787-790
Telephone ... ..	854
Remote Control Relays ... ..	384
Replacement Type Bell Indicators ... ..	778-780
Resistance Regulators ... ..	391



## ALPHABETICAL INDEX—(Continued)

	Page
Resistances, Fractional H.P. Motors ... ..	<b>757-758</b>
Wire-wound ... ..	<b>399</b>
Resistance Wire, " Climax " ... ..	<b>164</b>
Nickel Chrome ... ..	<b>163</b>
" Rhino " T.R.S. Cables ... ..	<b>96-107</b>
Rings, Earth Continuity ... ..	<b>233</b>
"R.L.M." Reflectors ... ..	<b>562</b>
Robertson Carbon Filament Lamps ... ..	<b>528</b>
Radiator Lamps... ..	<b>528</b>
Rosettes, Lighting Fitting ... ..	<b>640</b>
Rotary Snap Switches ... ..	<b>449</b>
Round Junction Boxes, Conduit ... ..	<b>262-265</b>
Rubber Mats ... ..	<b>195</b>
Rings, Conduit Box ... ..	<b>265</b>
Solution ... ..	<b>194</b>
Rules, Boxwood ... ..	<b>220</b>
Running Couplers, Conduit ... ..	<b>251</b>
" Saafux " Reflectors ... ..	<b>561</b>
Saddle Brackets, Iron ... ..	<b>213</b>
Saddles and Clips, Brass ... ..	<b>197</b>
Saddles, Conduit ... ..	<b>304-306</b>
Lead Alloy, for " Magnet " Wiring Systems ... ..	<b>240</b>
Sal-Ammoniac ... ..	<b>795</b>
" Salford " Ironclad Switches ... ..	<b>335-337</b>
Saw Pads and Blades ... ..	<b>224</b>
Saws ... ..	<b>223</b>
Screwed Collar Extension Pieces, Conduit ... ..	<b>273</b>
Screwdrivers ... ..	<b>222</b>
Screw Eyes, Insulated ... ..	<b>640</b>
Screws, Brass ... ..	<b>228-229</b>
Coach ... ..	<b>216</b>
Iron ... ..	<b>226-227</b>
Lacquered ... ..	<b>639</b>
Sealing Wire for " Magnet " Wiring Systems ... ..	<b>234</b>
Service Cut-outs, Ironclad ... ..	<b>363</b>
Sewing Machine Lighting Bracket ... ..	<b>607</b>
Shackle Ironwork ... ..	<b>211</b>
Shackle Type Insulators ... ..	<b>201</b>
Shackles, Lighting Fitting ... ..	<b>646</b>
Shade Carriers ... ..	<b>649-653</b>
Fixers ... ..	<b>653</b>
Tilters ... ..	<b>653</b>
Shades, Cardboard ... ..	<b>694</b>
Coloured and Decorated ... ..	<b>689-692</b>
Enamelled Iron ... ..	<b>694</b>
Fancy ... ..	<b>684-687</b>
Opal ... ..	<b>694</b>
Shelf Clips, Lighting Fitting ... ..	<b>673-675</b>
Ships' Connectors ... ..	<b>481</b>
Fans ... ..	<b>874-876</b>
Lamps ... ..	<b>526</b>
Lighting Fittings ... ..	<b>583-585</b>
Shop Lighting Lanterns, Exterior ... ..	<b>581-582</b>
Shop Window Lighting Reflectors ... ..	<b>671-678</b>
Shop Window Lighting Reflectors, " Gecoray " ... ..	<b>615-625</b>
Short-arm Elbows, Conduit ... ..	<b>258</b>
Tees, Conduit ... ..	<b>260</b>
Shot Firing Cables ... ..	<b>145</b>
Show Case Reflectors ... ..	<b>671-678</b>

## ALPHABETICAL INDEX—(Continued)

	Page
" S " Hooks ... ..	656
Shorteners, Flexible Cord ... ..	648
Shunt Resistance Switches ... ..	391
Shutters, Fan ... ..	901
Sidelight Lamps, Automobile ... ..	535-544
Sign Lamps ... ..	522-524
Switches, Neon ... ..	341
Signalling, Mine System ... ..	819-820
Relays ... ..	787-890
Signal Pulls, Mine ... ..	816-817
" Silverlac " Conduit, General Description ... ..	242
Paint ... ..	315
Sleeves, Cadmium Copper ... ..	192
Copper ... ..	192
Paper ... ..	192
Sleeving, Cotton ... ..	178-180
Empire ... ..	180
" Slick " Switches ... ..	434-435
Socket Fixing Rings ... ..	452
Socket Outlets and Plugs ... ..	466-480
Overseas Types ... ..	500
Socket Outlets with Adjusting Device ... ..	441-442
Sockets, Lighting Fitting ... ..	642
Mechanical Terminal ... ..	399
Terminal Sweating ... ..	398
Solder and Flux ... ..	193
Soldering Irons ... ..	219
Solid Couplers, Conduit ... ..	251
Elbows, Conduit ... ..	257
Tees, Conduit ... ..	259
Spare Parts, Telephone ... ..	850
Special Switches ... ..	447
Speed Regulators, Ceiling Fan ... ..	891-893
Table Fan ... ..	378
Speedway Track Lighting Fittings ... ..	612
Splicing Tape ... ..	191-192
Split Couplers, Conduit ... ..	251
Elbows, Conduit ... ..	258
Normal Bends, Conduit ... ..	254
Tees, Conduit ... ..	260
Sports Lighting Fittings ... ..	611-612
Staples ... ..	196
Starter Cables, Motor Car ... ..	148
Starters, " Witton " Motor ... ..	735-742
Stay-Rods and Swivels ... ..	213
Stocks and Dies ... ..	309-311
Steel Brackets, Conduit ... ..	278
Steel Binding Wire ... ..	162
Covering for Cables ... ..	238
Dispersive Reflectors ... ..	560
Wires and Cables ... ..	158
Strip, Indiarubber ... ..	191
" Striplite " Lamps ... ..	519
Lighting Fittings ... ..	674-678
Sub-Station Telephones ... ..	828
Sundries, Switch ... ..	452-453
" Superlux " Globes ... ..	681
Hemispheres ... ..	681
Reflectors ... ..	681
Suspension Switches ... ..	448

## ALPHABETICAL INDEX—(Continued)

	Page
Sweating Terminal Sockets ...	398
Switchboard Accessories ...	403
Busbars ...	404
Busbar Clamps ...	402
Fixing Bolts ...	401
Handwheel Pillars ...	405
Indicator Lamp Fittings ...	401
Meter Pillars ...	405
Mining Telephone ...	837
Panels ...	404
Push Button Switches ...	401
Telephones Accesories ...	846-847
Wiring Cleats ...	402
Wiring Clips ...	402
Switchboards, D.C. ...	406-409
Telephone Automatic ...	841-843
Telephone Battery Ringing Type ...	844
Telephone Central Battery Type ...	845
Telephone Magneto Type ...	844
Unit Type ...	355-358
Switches, Ammeter ...	393-394
Bolt ...	447
Ceiling ...	440
Change-over ...	342
Cooker Control ...	339-340
Door ...	447
Field Breaking ...	392
Flameproof ...	343
Gate, Ironclad ...	346
Ironclad ...	335-346
Ironclad Push Button ...	346
" Landor " ...	436-439
" Landor Junior " ...	433
" Landor Senior " ...	443-446
Limit, Ironclad ...	345
Neon Sign ...	341
" Nipper " ...	431-432
Overseas Type ...	501
Pedal, Ironclad ...	345
Quadrant... ...	447
Rotary Snap ...	449
Shunt Resistance ...	391
" Slick " ...	434-435
Special ...	447
Suspension ...	448
Switchboard Push-button ...	401
Telephone ...	851-852
Time ...	720-723
Time Lag ...	447
Voltmeter ...	393
With Adjusting Device ...	441-442
With Interlocking Plugs, Ironclad ...	344
" Witton " ...	389-390
Switch and Cut-out Sets ...	422
Switch and Plate Assemblies ...	451
Switch and Plug Combinations, Non-interlocking ...	456-457
Switch and Socket Outlets, Adjustable ...	441-442
Switch Boxes, Conduit, Flush ...	286-289
Conduit, Surface ...	285
Conduit, Semi-recessed ...	282-284

## ALPHABETICAL INDEX—(Continued)

	Page
Switch Boxes, Conduit, Watertight ... ..	281
Coupling Bars ... ..	453
Covers ... ..	453
Fixing Rings ... ..	452
Flanges ... ..	453
Fuses and Splitters, Main ... ..	421
Indicator Lamps ... ..	527
Labels ... ..	453
Lampholders, Bakelite ... ..	491
Plates, Bakelite ... ..	450-451
Plates, Metal ... ..	664-667
Plug Boxes, Conduit ... ..	297
Plugs, Automatic ... ..	461
Plugs (Box), Horizontal ... ..	461
Plugs (Box), Interlocking ... ..	460
Plugs (Box), Non-interlocking ... ..	459
Plugs (Box), Vertical Interlocking ... ..	458
Plugs, Non-interlocking ... ..	454-455
Sundries ... ..	452-453
Switchgear Busbar Chambers ... ..	354
Syrens ... ..	801-802
<b>Table Fans ... ..</b>	<b>860-873</b>
Tables, Fuse Wiring ... ..	372
Wiring ... ..	17-21
Tail Lamps, Automobile ... ..	535-544
Tape, Armature Binding ... ..	178
Empire ... ..	179-180
Splicing ... ..	191-192
Tappers, Mine ... ..	815-816
Tap ... ..	312
Tap Wrenches ... ..	311
Technical Data, Electrical ... ..	934-935
Gasfilled Lamps ... ..	508
Vacuum Lamps ... ..	510
Telephone Accessories ... ..	846-849
Cables ... ..	153-154
Cords ... ..	856
Coupling Unit (Mining Type) ... ..	837
Earth Clips ... ..	854
Extending Arms ... ..	857
Extension Bells ... ..	853
Flexibles ... ..	856
Fuse Boards ... ..	855
Lightning Arrestors ... ..	855
Magneto Generators ... ..	854
Relays ... ..	854
Spare Parts ... ..	850
Switchboard Accessories ... ..	846-847
Switchboard, Automatic Type ... ..	841-843
Switchboard, Battery Ringing Type ... ..	844
Switchboard, Central Battery Type ... ..	845
Switchboard, Magneto Type ... ..	844
Switchboard, Mining Type ... ..	837
Switches ... ..	851-852
Telephones, Automatic ... ..	838-840
Battery Call ... ..	823-824
Battery Call for Mines ... ..	830
Central Battery ... ..	833
Direct Working ... ..	822

## ALPHABETICAL INDEX—(Continued)

	Page
Telephones, Direct Working for Mines ... ..	<b>836</b>
Intercommunication ... ..	<b>825-827</b>
Junction Boxes ... ..	<b>851</b>
Magneto ... ..	<b>831-832</b>
Magneto for Mines ... ..	<b>834-835</b>
Parlour Type ... ..	<b>821</b>
Portable ... ..	<b>833</b>
Private Automatic Exchange ... ..	<b>838-839</b>
Sub-Station ... ..	<b>828</b>
Tradesmen's Service ... ..	<b>829</b>
Tents, Jointer's ... ..	<b>225</b>
Terminals, Binding ... ..	<b>809-810</b>
Screw ... ..	<b>809-810</b>
Terminal Sockets, Mechanical ... ..	<b>399</b>
Sweating ... ..	<b>398</b>
Terms and Conditions of Sale, G.E.C. ... ..	<b>11-12</b>
Wires and Cables ... ..	<b>14</b>
Testing Instruments ... ..	<b>712-718</b>
Thermic Flashers ... ..	<b>498</b>
Thermic Flasher Lampholders ... ..	<b>498</b>
Thermostats ... ..	<b>719</b>
Thread Equivalents, Conduit ... ..	<b>248</b>
Tilters, Shade ... ..	<b>653</b>
Time Switches ... ..	<b>720-723</b>
Lag ... ..	<b>447</b>
Tools, Bell Fitter's ... ..	<b>224</b>
Conduit ... ..	<b>309-315</b>
Wireman's ... ..	<b>217-224</b>
Tongs, Draw ... ..	<b>218</b>
Top Outlet Inspection Elbows, Conduit ... ..	<b>258</b>
Tees, Conduit ... ..	<b>260</b>
Traction Lamps, Gasfilled ... ..	<b>525-526</b>
Vacuum ... ..	<b>525</b>
Traction Type Bells ... ..	<b>761</b>
Trade Names, G.E.C. ... ..	<b>13</b>
Tradesmen's Service Telephones ... ..	<b>829</b>
Trafficator Lamps ... ..	<b>541</b>
Transformers, Air-cooled ... ..	<b>695-697</b>
Bell ... ..	<b>791</b>
Oil-cooled ... ..	<b>698-700</b>
Portable ... ..	<b>701</b>
Transit Breakages, Lamp ... ..	<b>505</b>
Tube Cutters ... ..	<b>313</b>
Tube Ends and Bushes, Conduit ... ..	<b>299-300</b>
Tube Holders, Conduit ... ..	<b>306</b>
Tube Vices ... ..	<b>313</b>
Tubes, Leading-in, White Porcelain ... ..	<b>204</b>
Lighting Fitting... ..	<b>656</b>
Tubing, Ebonite ... ..	<b>183</b>
Flexible Steel ... ..	<b>225</b>
Tubular Earths ... ..	<b>808</b>
Lamps ... ..	<b>518</b>
Turn-down Lamps ... ..	<b>516</b>
Turnscrews ... ..	<b>222</b>
Twin Ceiling Roses ... ..	<b>430</b>
Twin-filament Lamps, Automobile ... ..	<b>538-539</b>
Two-gang Switch and Socket Boxes ... ..	<b>442</b>
Ultra Violet Lamps ... ..	<b>549</b>
Underwater Lighting Fittings ... ..	<b>613</b>

## ALPHABETICAL INDEX—(Continued)

	Page
Unit Type Switchboards ... ..	<b>355-358</b>
Universal Conduit Junction Boxes ... ..	<b>269</b>
Universal Motors, Fractional H.P. ... ..	<b>750-751</b>
<b>Varnishes, Insulating</b> ... ..	<b>181-182</b>
“ Venner ” Time Switches ... ..	<b>720-723</b>
Vertical Elieptical Reflectors ... ..	<b>565</b>
Vertical Interlocking Switch Plugs (Box) ... ..	<b>458</b>
Vices, Draw ... ..	<b>217</b>
Hand ... ..	<b>220</b>
Visual Lamp Indicator ... ..	<b>812</b>
Voltmeters, Moving Coil ... ..	<b>707-709</b>
(Portable) ... ..	<b>711</b>
Moving Iron ... ..	<b>703-706</b>
(Portable) ... ..	<b>710</b>
Voltmeter Plugs ... ..	<b>394</b>
Switches ... ..	<b>393</b>
Vulcanised Fibre Rods, Sheet and Tubes ... ..	<b>188-189</b>
<b>Wall Brackets, Iron</b> ... ..	<b>212</b>
Hooks ... ..	<b>213</b>
Nails, Lead-headed ... ..	<b>198</b>
Plug Boxes, Conduit ... ..	<b>296</b>
Watertight Lighting Fitting Brackets ... ..	<b>609-610</b>
Watertight Wiring System, “ Magnet ” ... ..	<b>234</b>
Wax, Paraffin... ..	<b>194</b>
Weatherproof Lighting Fittings, Cast Iron ... ..	<b>586-590</b>
“ Wedgwood ” Daylight Fittings ... ..	<b>576-577</b>
Well Glasses ... ..	<b>693</b>
White Gasfilled Lamps ... ..	<b>521</b>
Wire, British Standard Sizes ... ..	<b>157-160</b>
Gauges ... ..	<b>221</b>
Gauges, Comparison Table ... ..	<b>156</b>
Wire Guards, Lighting Fitting ... ..	<b>659</b>
Wireless Antennæ, Bare Copper ... ..	<b>161</b>
Enamelled Copper ... ..	<b>166</b>
Wireless Insulators ... ..	<b>202</b>
Wireman's Tools ... ..	<b>217-224</b>
Wires and Cables ... ..	<b>14-155</b>
Comparison Tables ... ..	<b>16</b>
Forms of Packing ... ..	<b>15</b>
Terms and Conditions of Sale ... ..	<b>14</b>
Wires, Bare Copper ... ..	<b>161</b>
Bare, Wireless Antennæ ... ..	<b>161</b>
Bell and Telephone ... ..	<b>149-151</b>
Cadmium Copper ... ..	<b>162</b>
Copper Enamelled, for Wireless Antennæ ... ..	<b>166</b>
Electroliter ... ..	<b>146</b>
Fuse ... ..	<b>165-166</b>
Fuse, Fusing Currents ... ..	<b>165</b>
Galvanised Iron ... ..	<b>162</b>
Resistance ... ..	<b>163-164</b>
Resistance, “ Climax ” ... ..	<b>164</b>
Resistance, Nickel Chrome ... ..	<b>163</b>
Silicium Bronze ... ..	<b>162</b>
Steel ... ..	<b>158</b>
Tinned Copper Binding ... ..	<b>161</b>
Tinned Steel Binding ... ..	<b>162</b>
Winding ... ..	<b>167-177</b>
Wire-wound Resistances ... ..	<b>399</b>

## ALPHABETICAL INDEX—(Continued)

	Page
Wiring Capacities, Conduit ... ..	<b>248</b>
Wiring Cleats, Switchboard ... ..	<b>402</b>
Clips, "Magnet" Wiring Systems ... ..	<b>239</b>
Clips, Switchboard ... ..	<b>402</b>
Tables ... ..	<b>17-21</b>
Tables, Fuse ... ..	<b>372</b>
Staples ... ..	<b>196</b>
Wiring Systems, Back Plates ... ..	<b>232</b>
Back Plate Covers ... ..	<b>232</b>
Bakelite Junction Boxes ... ..	<b>235</b>
Brass Junction Boxes ... ..	<b>232</b>
"Magnet" Series ... ..	<b>230-241</b>
"Magnet" Watertight ... ..	<b>234</b>
"Wittonite" Junction Boxes ... ..	<b>236</b>
"Wittonite" Junction Boxes for Wiring Systems ... ..	<b>236</b>
"Witton" Motors, A.C. ... ..	<b>724-729</b>
D.C. ... ..	<b>730-733</b>
Fractional H.P. ... ..	<b>743-758</b>
Starters ... ..	<b>735-742</b>
"Witton" Switches ... ..	<b>389-390</b>
Wood Blocks ... ..	<b>667-669</b>
Wiring System types ... ..	<b>238</b>
Wood Boxes, Switch ... ..	<b>668</b>
Wood Casing and Capping ... ..	<b>316</b>
Wood Moulding ... ..	<b>236</b>
Works and Organisation, G.E.C. ... ..	<b>6</b>
Workshop Lighting Brackets ... ..	<b>607-608</b>
<b>X</b> mas Tree Lamp Outfits ... ..	<b>547-548</b>
<b>Z</b> inc Wire Fixing Clips ... ..	<b>197</b>

## NUMERICAL INDEX

Catalogue Prefix Letters are listed  
in Alphabetical order.

C

Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page
C1001-08 } C1011-18 } C1021-28 }	<b>249</b>	C4481-85 } C4491-95 }	<b>264</b>	C5522-32 } C5540 } C5543-45 } C5552-53 } C5562-63 } C5573-75 }	<b>281</b>	C6233-35 } C6253-55 } C6273-75 }	<b>296</b>
C1031-40 } C1051-59 } C1062-68 } C1082-89 }	<b>250</b>	C4500-09 }  C4522-28 } C4552-58 } C4572-78 } C4582-88 } C4592-98 } C4602-08 } C4612-18 } C4630-39 }	<b>261</b>  <b>265</b>	C5582-83 } C5592-93 } C5602-03 } C5612-13 }	<b>282</b>	C6300-02 } C6310-12 } C6320 } C6330 }	<b>297</b>
C1091-93 }  C4001-10 } C4022-29 }	<b>249</b>  <b>251</b>	C4652-59 } C4662-69 }	<b>267</b>	C5632-33 } C5652-53 }	<b>283</b>	C6352-58 } C6381-84 } C6391-96 }	<b>298</b>
C4041-45 } C4052-59 }	<b>253</b>	C4672-79 } C4682-89 } C4692-99 } C4702-08 } C4712-18 } C4720-22 }	<b>268</b>	C5692-93 } C5702-03 } C5712-13 } C5722-23 } C5732-33 }	<b>284</b>	C6401-14 } C6421-22 } C6433-40 } C6441-58 }	<b>299</b>
C4071-80 }  C4101-10 } C4121-29 } C4141-48 } C4151-58 }	<b>251</b>  <b>255</b>	C4980-93 } C5000-03 }	<b>272</b>	C5752-53 } C5762-63 } C5772-73 }	<b>285</b>	C6461-69 } C6481-88 } C6491-98 } C6501-08 } C6511-18 } C6521-28 } C6531-38 } C6541-48 }	<b>300</b>
C4162-69 }  C4182-89 }	<b>256</b>  <b>254</b>	C5012-13 } C5020-21 } C5033 } C5043 }	<b>273</b>	C5782-83 }  C5873-75 } C5893-95 }	<b>284</b>  <b>285</b>	C6551-60 } C6571-78 } C6581-88 } C6592-98 }	<b>301</b>
C4191-99 } C4211-19 }	<b>257</b>	C5050-69 } C5070-83 }	<b>276</b>	C5901-04 }  C5911-13 }	<b>286</b>  <b>288</b>	C6651-58 } C6661-68 } C6671-78 } C6681-88 } C6691-98 } C6702-08 }	<b>302</b>
C4232-38 } C4241-45 } C4252-59 } C4261-63 }	<b>258</b>	C5084 } C5090 }	<b>275</b>	C5931-50 } C5971-82 }	<b>289</b>	C6711-18 } C6721-22 } C6728-29 }	<b>303</b>
C4271-79 } C4291-99 }	<b>259</b>	C5102-05 } C5112-15 } C5132-35 } C5152-55 } C5172-75 } C5182-83 } C5190-95 }	<b>278</b>	C5991-93 }  C6002-20 }	<b>287</b>  <b>290</b>	C6801-08 } C6811-20 } C6831-38 } C6841-48 } C6851-58 } C6862-68 } C6872-78 }	<b>304</b>
C4312-18 } C4322-29 } C4331-33 } C4341-45 }	<b>260</b>	C5333-36 } C5363-66 } C5383-86 } C5403-06 } C5423-26 }	<b>280</b>	C6042-52 }  C6071-90 }	<b>291</b>  <b>293</b>	C6892-98 } C6902-08 } C6912-18 }	<b>306</b>
C4351-55 } C4361-65 } C4371-75 } C4381-85 } C4391-95 }	<b>262</b>	C5483-88 } C5493-98 } C5503-08 }	<b>279</b>	C6091-96 }  C6101-03 } C6111-29 } C6130-32 }	<b>296</b>  <b>295</b> <b>294</b> <b>295</b>		
C4401-05 } C4411-15 } C4421-25 } C4441-45 }	<b>263</b>			C6142-45 } C6152-53 } C6172-75 } C6192-95 }	<b>296</b>		
C4461-65 } C4471-75 }	<b>264</b>						



**NUMERICAL INDEX—(Continued)**

**C**

Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page
C6921-28 C6932-38 C6942-48 C6952-58 C6962-68	<b>306</b>	C7098-99 C7100-05 C7115-17 C7127-29 C7138-40	<b>309</b>	C7280-84 C7290-95	<b>313</b>	C7443	<b>298</b>
C6981-85 C6991-95 C7001-05 C7011-15 C7020	<b>307</b>	C7150-52 C7160-62	<b>310</b>	C7300-04 C7310 C7321-27	<b>314</b>	C7502-06 C7512-16	<b>314</b>
C7030-35 C7037-38 C7040-42 C7045-47	<b>308</b>	C7171-73 C7181-86 C7195-98 C7201-03 C7211-16 C7225-27 C7230-32 C7240-41	<b>311</b>	C7330-36	<b>315</b>	C7602-03 C7612-13 C7622-23 C7632-33 C7642-43 C7652-53 C7662-63 C7682-83 C7692-93 C7712-13 C7722-23	<b>270</b>
C7050-53 C7061-65 C7075-77 C7087-89	<b>309</b>	C7251-59 C7261-69 C7271	<b>312</b>	C7341-44 C7350-62	<b>316</b>	C8091-99 C8100-06	<b>293</b>
CA4001-06	<b>251</b>	CA4372-75 CA4382-85 CA4392-95	<b>262</b>	C7403 C7413 C7423 C7433	<b>298</b>		
CA4041-45 CA4052-56	<b>253</b>	CA4402-05 CA4412-15 CA4422-25 CA4442-45	<b>263</b>	CA4792-95 CA4802-05 CA4812-15 CA4822-25 CA4832-35 CA4842-45	<b>269</b>	CA5732-33 CA5742-43	<b>283</b>
CA4162-66	<b>254</b>	CA4662-65 CA4472-75 CA4482-85 CA4492-95	<b>264</b>	CA5582-83 CA5592-93 CA5602-03 CA5612-13	<b>282</b>	CA5752-53 CA5762-63 CA5772-73	<b>285</b>
CA4172-76	<b>256</b>	CA4506	<b>261</b>	CA5632-33 CA5652-53 CA5673-75 CA5683-85 CA5692-93 CA5702-03 CA5712-13 CA5722-23	<b>283</b>	CA5782-83	<b>284</b>
CA4192-96 CA4212-16	<b>257</b>	CA4742-45 CA4752-55 CA4762-65 CA4772-75 CA4782-85	<b>269</b>	CA6071-76		CA6101-02	<b>294</b>
CA4232-33	<b>258</b>			CA6101-02		CA6562-68 CA6602-08	<b>301</b>
CA4272-76 CA4292-96	<b>259</b>			CA7542-43 CA7552-53 CA7562-63 CA7572-73			<b>284</b>
CA4312-13	<b>260</b>						
CA4352-55 CA4362-65	<b>262</b>						
CP4001-03 CP4101-03 CP4141-43	<b>260</b>	CP4191-93 CP4211-13 CP4271-73	<b>260</b>	CP4291-93 CP6361-68	<b>260</b> <b>298</b>	CP6401-06	<b>299</b>
CS4001-03 CS4041-43	<b>251</b> <b>253</b>	CS4191-93 CS4212-13	<b>257</b>	CS4372-73 CS4381-83 CS4392-93	<b>262</b>	CS4472-73 CS4481-83 CS4492-93	<b>264</b>
CS4101-03 CS4141-43	<b>255</b>	CS4271-73 CS4291-93	<b>259</b>	CS4401-03 CS4412-13	<b>263</b>	CS4930-43 CS4950-73	<b>272</b>
CS4162-63	<b>254</b>	CS4351-53 CS4361-63	<b>262</b>	CS4461-63	<b>264</b>	CS5051-88	<b>277</b>

## NUMERICAL INDEX—(Continued)

### C

Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page
CS5582-83 CS5592-93 CS5602-03 CS5612-13	<b>282</b>	CS5632-33 CS5652-53 CS5752-53 CS5762-63 CS5772-73	<b>283</b> <b>285</b>	CS5782-83  CS5901-06 CS5922	<b>284</b> <b>287</b>	CS6071-76  CS6101-02 CS6401-03	<b>294</b> <b>293</b> <b>299</b>
CW6361-68	<b>298</b>	CW6401-06	<b>299</b>				

### F

F3501-19	<b>639</b>	F3793-99 F3807-25	<b>651</b>	F4171-77	<b>665</b>	F4721-23	<b>612</b>
F3521-41	<b>640</b>	F3829-45	<b>652</b>	F4179-97	<b>666</b>	F4731-41	<b>560</b>
F3543-57	<b>641</b>	F3849-69	<b>653</b>	F4199 F4201-27	<b>667</b>	F4858-59	<b>581</b>
F3561-79	<b>642</b>	F3873-87	<b>654</b>	F4231-69	<b>668</b>	F4861-63	<b>582</b>
F3581-91	<b>643</b>	F3891-99	<b>655</b>	F4271-99 F4300	<b>669</b>	F4868-70	<b>581</b>
F3593-97 F3601-03	<b>644</b>	F3903-07	<b>653</b>	F4301-45	<b>670</b>	F4872-74	<b>583</b>
F3607	<b>643</b>	F3911-17	<b>656</b>	F4351-71	<b>671</b>	F4875-77	<b>584</b>
F3609-27	<b>644</b>	F3921	<b>655</b>	F4373-93	<b>672</b>	F4878-80	<b>585</b>
F3629	<b>645</b>	F3931-79	<b>656</b>	F4407-21	<b>673</b>	F4881-89	<b>587</b>
F3631-34	<b>643</b>	F3985-95	<b>657</b>	F4423-33	<b>674</b>	F4891	<b>588</b>
F3635-49	<b>645</b>	F4001-15	<b>658</b>	F4435	<b>675</b>	F4892	<b>589</b>
F3651-53	<b>646</b>	F4051-69	<b>659</b>	F4437	<b>676</b>	F4895	<b>588</b>
F3655-57	<b>645</b>	F4071-76	<b>660</b>	F4438-40	<b>675</b>	F4896	<b>589</b>
F3659-67	<b>646</b>	F4077-79	<b>661</b>	F4441-51	<b>676</b>	F4898	<b>590</b>
F3669-77	<b>647</b>	F4081-83	<b>660</b>	F4455-57	<b>675</b>	F4899 F4903	<b>588</b>
F3681	<b>646</b>	F4091-96	<b>661</b>	F4461-63	<b>677</b>	F4904-08	<b>588</b>
F3687-89	<b>647</b>	F4097-99 F4101	<b>660</b>	F4465-79	<b>678</b>	F4909-10	<b>588</b>
F3701-09 F3721-43	<b>648</b>	F4103-17	<b>661</b>	F4481-85	<b>679</b>	F4911-19	<b>589</b>
F3751-71	<b>649</b>	F4119-27	<b>662</b>	F4491-97	<b>680</b>	F4920-22 F4923	<b>590</b>
F3773	<b>586</b> <b>650</b>	F4131-57	<b>663</b>	F4701	<b>560</b>	F4924	<b>592</b>
F3775-91	<b>650</b>	F4161-69	<b>664</b>	F4707-15	<b>559</b>	F4925	<b>590</b>

**NUMERICAL INDEX—(Continued)**

**F**

Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page
F4926	<b>592</b>	F5047-51	<b>606</b>	F8471-77	<b>634</b>	F16161-79	<b>564</b>
F4927	<b>590</b>	F5061-62	<b>607</b>	F9937-40	<b>627</b>	F16181-97	<b>565</b>
F4928-30	<b>592</b>	F5063-64	<b>608</b>	F9955-56	<b>633</b>	F16201-07	<b>566</b>
F4932-38	<b>591</b>	F5251	<b>609</b>	F9965-68 } F9971-73 }	<b>628</b>	F16208-09	<b>567</b>
F4939-41	<b>593</b>	F5253	<b>610</b>	F9974-76	<b>634</b>	F16211-19	<b>566</b>
F4942	<b>594</b>	F5255-57	<b>609</b>	F9977-79	<b>632</b>	F16221-29 } F16231-39 }	<b>567</b>
F4943	<b>596</b>	F5260	<b>610</b>	F9980-87	<b>629</b>	F16241-46 } F16251-56 }	<b>572</b>
F4944	<b>594</b>	F5270-72	<b>613</b>	F9996-99	<b>634</b>	F16261-66 } F16271-76 }	<b>568</b>
F4945	<b>596</b>	F5601-05	<b>617</b>	F10104 } F10109 }	<b>636</b>	F16281-84 } F16287 }	<b>569</b>
F4946	<b>594</b>	F5611-15	<b>618</b>	F10215 } F10313 }	<b>635</b>	F16291-99 } F16301-09 }	<b>573</b>
F4947-50	<b>596</b>	F5621-23	<b>619</b>	F16010-13	<b>555</b>	F16411-18	<b>579</b>
F4951	<b>595</b>	F5631-35	<b>620</b>	F16014-16	<b>556</b>	F16462-63	<b>571</b>
F4955-59	<b>597</b>	F5641-45	<b>622</b>	F16017-18	<b>557</b>	F16465-66	<b>611</b>
F4961-63	<b>598</b>	F5651-53	<b>621</b>	F16020-23	<b>555</b>	F16467-69	<b>576</b>
F4965	<b>596</b>	F5661-69	<b>623</b>	F16024-26	<b>556</b>	F16470-73	<b>577</b>
F4967-69	<b>598</b>	F5681-89	<b>624</b>	F16027-28	<b>557</b>	F16474-79	<b>578</b>
F4971-83	<b>599</b>	F5704 } F5726-28 }	<b>637</b>	F16101	<b>570</b>	F16482-83	<b>571</b>
F4985-87	<b>601</b>	F5735 } F5748 }	<b>638</b>	F16102-03	<b>571</b>	F17501-03	<b>638</b>
F4989-91	<b>602</b>	F7231-35	<b>627</b>	F16108-09	<b>570</b>	F17509	<b>557</b>
F4993-97 } F5001-03 }	<b>600</b>	F7271-75 } F7281-85 }	<b>630</b>	F16111-19 } F16121-29 } F16131-38 }	<b>562</b>	F17551	<b>580</b>
F5024	<b>603</b>	F7301-05 } F7311-15 }	<b>631</b>	F16141-59	<b>563</b>		
F5031-39	<b>604</b>	F7469-77	<b>632</b>				
F5041-44	<b>605</b>						

**G**

G100-108 } G122-124 } G140-148 } G162-168 } G191-194 }	<b>681</b>	G350-354 } G1001-05 } G1011-15 } G1210-16 } G1340-46 }	<b>682</b> <b>683</b>	G1500-08 } G1522 } G1532-38 } G1540-46 }	<b>682</b>	G6301-13 } G6333-37 } G6359-63 } G6401-07 } G6411-33 }	<b>694</b> <b>693</b>
--	------------	--	--------------------------	---	------------	--	--------------------------

## NUMERICAL INDEX—(Continued)

### G

Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page
G6501-07 G6531-35 G6545	<b>694</b>	G6715 G6721-23 G6727	<b>685</b>	G6825-27 G6831-35 G6839-45	<b>690</b>	G6881-87	<b>691</b>
G6651-55 G6661 G6671-73 G6681-93		G6729-35 G6739-43		G6847-55 G6859		G6889-93 G6901-07 G6921-27 G6945 G6951-57	
G6697-99 G6701	<b>685</b>	G6761-71	<b>687</b>	G6861	<b>692</b>	G6961-67 G6971-75 G6981-83	<b>688</b>
GO2873	<b>586</b>	G6801-06 G6811-23	<b>689</b>	G6863-67 G6871-77	<b>691</b>	GO3086	<b>586</b>

### K

K7615 K7617 K7630-1 K7633 K7640 K7641-2	<b>847</b>	K7851 K7855	<b>824</b>	K8335	<b>844</b>	K8500-1 K8510 K8515	<b>852</b>
K7655 K7670 K7681-2 K7685-6		K7863-4		K8336 K8338	<b>837</b>	K8520	
K7700-02 K7707-16	<b>849</b>	K7867 K7888	<b>826</b>	K8350 K8360	<b>844</b>	K8525 K8530	<b>852</b>
K7725-28		K7907 K7913		K8364 K8369-70		K8545	
K7730	<b>821</b>	K7915	<b>829</b>	K8384-5 K8387-90	<b>840</b>	K8550 K8557-9	<b>850</b>
K7735	<b>822</b>	K7953 K7967	<b>828</b>	K8393-4		K8560	
K7740-1	<b>821</b>	K8005 K8025 K8030 K8035		K8395-6	<b>842</b>	K8562-4	<b>854</b>
K7746 K7750	<b>822</b>	K8055-9	<b>832</b>	K8400-1 K8404-5 K8408 K8423 K8429 K8431 K8433 K8436	<b>846</b>	K8565 K8570-1 K8575 K8581-2 K8590-3	<b>855</b>
K7766		K8097	<b>830</b>	K8460-62 K8465-9 K8470-71 K8473-4 K8476-78		K8655 K8690 K8695 K8700-2	
K7781 K7784 K7786	<b>850</b>	K8099	<b>835</b>	K8481	<b>851</b>	K9216 K9218 K9225-6 K9230-1 K9241	<b>858</b>
K7790 K7796		K8100	<b>834</b>	K8482-8	<b>856</b>	K9443 K9445 K9446-47	
K7820 K7826 K7842-3	<b>823</b>	K8105 K8107	<b>836</b>	K8491	<b>851</b>		
K7847		K8146 K8167 K8225 K8230					
		K8300 K8304 K8312 K8313	<b>853</b>				

**NUMERICAL INDEX—(Continued)**

**L**

Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page
L480	<b>800</b>	L3212-15	<b>778</b>	L4143	<b>815</b>	L4607	<b>774</b>
L490-95		L3214-16	<b>779</b>	L4146	<b>816</b>	L4609	<b>773</b>
L497-502		L3218	<b>780</b>	L4196	<b>815</b>	L4611	<b>774</b>
L504-9		L3220-2	<b>784</b>	L4220	<b>813</b>	L4612	<b>773</b>
L625-7		L3223-28	<b>785</b>	L4225-6	<b>811</b>	L4613-4	<b>774</b>
L632-3		L3230-32		L4229-30		L4639-41	<b>766</b>
L639-40		L3235-38	<b>781</b>	L4231-2	<b>812</b>	L4801-2	<b>792</b>
L2020-1	<b>759</b>	L3277	<b>777</b>	L4233	<b>813</b>	L4830-1	
L2026	<b>761</b>	L3317-18	<b>761</b>	L4234-6	<b>815</b>	L4835-6	
L2030-1	<b>759</b>	L3452	<b>764</b>	L4235	<b>812</b>	L4840-41	
L2040	<b>760</b>	L3453		L4237	<b>814</b>	L4842	<b>793</b>
L2045-6	<b>759</b>	L3456		L4238-40	<b>817</b>	L4850-57	<b>794</b>
L2049-50	<b>760</b>	L3458		L4243-4	<b>816</b>	L4885-86	<b>793</b>
L2181	<b>762</b>	L3480	<b>766</b>	L4266	<b>819</b>	L4890-5	
L2184		L3541	<b>764</b>	L4272	<b>820</b>	L4910	<b>795</b>
L2186-8		L3543		L4277		L4914-17	
L2245-6	<b>761</b>	L3545	<b>766</b>	L4321-2	<b>769</b>	L4925-8	
L2280-89	<b>762</b>	L3550	<b>764</b>	L4325-8	<b>771</b>	L4930-32	<b>798</b>
L2297-9	<b>763</b>	L3552		L4331-5	<b>769</b>	L4934-37	<b>797</b>
L3000		L3561		L4339		L4938	<b>796</b>
L3001	<b>761</b>	L3564		L4355-57	<b>767</b>	L4939-40	<b>798</b>
L3005		L3569	<b>765</b>	L4363-64		L4941-2	<b>796</b>
L3031-2	<b>786</b>	L3574	<b>766</b>	L4370-71		L4943-44	<b>798</b>
L3054	<b>760</b>	L3584	<b>765</b>	L4380-84		L4945-49	<b>797</b>
L3056		L3609	<b>766</b>	L4387	<b>769</b>	L4950	<b>798</b>
L3101-6	<b>789</b>	L3873	<b>770</b>	L4391-2	<b>768</b>	L4951-2	<b>795</b>
L3111-16		L4005-8	<b>771</b>	L4398-9		L4955	<b>796</b>
L3130	<b>790</b>	L4021-3		L4402-6		L4981-2	<b>795</b>
L3131	<b>788</b>	L4030	<b>770</b>	L4462	<b>769</b>	L4997-5002	<b>802</b>
L3132	<b>787</b>	L4040-48	<b>765</b>	L4464		L5143-4	<b>817</b>
L3134		L4049-53	<b>772</b>	L4503	<b>775</b>	L5145-6	<b>818</b>
L3135	<b>788</b>	L4059	<b>770</b>	L4510-12		L5400-2	<b>809</b>
L3139	<b>790</b>	L4094		L4523		L5405-8	
L3140-2	<b>791</b>	L4107-11	<b>772</b>	L4531	<b>766</b>	L5410-12	
L3153		L4119	<b>818</b>	L4533			
L3201-02	<b>777</b>			L4601-03	<b>773</b>		
L3208-9	<b>776</b>						

## NUMERICAL INDEX—(Continued)

### L

Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page
L5417-20 L5428 L5430-4	<b>810</b>	L5800-8 L5812-20	<b>803</b>	L5856-7	<b>805</b>	L5875-77	<b>806</b>
L5452		L5835-7 L5840-2 L5845-8 L5850-5		L5858	<b>806</b>	L5878-80 L5883-85 L5890-92 L5895-97 L5901-3	
L5458 L5470	<b>810</b>		<b>804</b>	L5864-5	<b>805</b>	L6080-2	<b>808</b>
				L5866-7 L5870-2	<b>806</b>		

### M

M900	<b>718</b>	M2740-80 M2800-30	<b>708</b>	M3800-26	<b>711</b>	M6045-47	<b>714</b>
M1100-28 M1140-81	<b>703</b>	M3253-99 M3300-12 M3498-99 M3500-12		M4144	<b>716</b>	M6050-67	<b>713</b>
M1200-19 M1240-76			<b>705</b>	M5179-98	<b>706</b>	M6070-76	<b>714</b>
M2381-99 M2400-48	<b>704</b>	M3702-06 M3720-26	<b>710</b>	M5300-04	<b>717</b>	M6096-99	<b>715</b>
M2612-98		M3750-62		M5600-09 M5620-27	<b>709</b>	M6300-10	<b>712</b>
				M6034-41		M6424-30	<b>718</b>

### MW

MW8406-07	<b>235</b>	MW8455-57	<b>233</b>	MW8471	<b>237</b>	MW8500-03	<b>234</b>
MW8410-16	<b>232</b>	MW8460-63	<b>241</b>	MW8473	<b>236</b>	MW8521-26	<b>237</b>
MW8418	<b>241</b>	MW8464-66	<b>238</b>	MW8474	<b>235</b>	MW8528-30	<b>241</b>
MW8419-20	<b>233</b>	MW8468	<b>236</b>	MW8475	<b>237</b>	MW8531-33	<b>237</b>
MW8421-24	<b>238</b>	MW8469	<b>237</b>	MW8477-81	<b>240</b>	MW8534-42	<b>235</b>
MW8425-28	<b>238</b>	MW8470	<b>236</b>	MW8482-83	<b>241</b>	MW8640-42	<b>236</b>
MW8429-51	<b>239</b>			MW8485-86	<b>238</b>		

### OS

OS136	<b>537</b>	OS1240	<b>539</b>	OS4618 OS4726	<b>546</b>	OS6183-84	<b>540</b>
OS638	<b>541</b>	OS1336	<b>537</b>	OS4800		OS6194	<b>536</b>
OS1224	<b>536</b>	OS1360	<b>539</b>	OS6121	<b>538</b>	OS6240	<b>539</b>
OS1233	<b>541</b>	OS2118	<b>546</b>	OS6122	<b>539</b>	OS6240Y	<b>537</b>
OS1236	<b>536</b>	OS4122	<b>539</b>	OS6180	<b>536</b>	OS6242 OS6324	<b>539</b>
OS1238	<b>541</b>	OS4126	<b>546</b>				

**NUMERICAL INDEX—(Continued)**

**OS**

Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page
OS6338	<b>541</b>	OS7014	<b>536</b>	OS7144	<b>535</b>	OS7613-16	<b>541</b>
OS6366 } OS6377 }	<b>536</b>	OS7014Y	<b>537</b>	OS7146-47	<b>539</b>	OS7954	<b>542</b>
OS6418	<b>539</b>	OS7016	<b>542</b>	OS7168	<b>535</b>	OS7998 } OS8000 }	<b>536</b>
OS6450-51	<b>536</b>	OS7017-18	<b>535</b>	OS7171	<b>540</b>	OS8000Y	<b>537</b>
OS6995	<b>536</b>	OS7019-21	<b>536</b>	OS7184	<b>535</b>	OS8001	<b>536</b>
OS7000-02	<b>535</b>	OS7032	<b>542</b>	OS7214	<b>543</b>	OS8008	<b>538</b>
OS7004	<b>536</b>	OS7097-99 } OS7101 } OS7110 }	<b>540</b>	OS7224	<b>542</b>	OS8010	<b>537</b>
OS7004Y	<b>537</b>	OS7114	<b>535</b>	OS7268 } OS7282 }	<b>541</b>	OS8010L } OS8014-15L }	<b>538</b>
OS7010	<b>535</b>	OS7116	<b>540</b>	OS7300-01 } OS7307 } OS7314-15 } OS7320-21 }	<b>546</b>	OS8015	<b>537</b>
OS7011	<b>536</b>	OS7123	<b>535</b>	OS7577 } OS7582-88 } OS7592 }	<b>542</b>	OS8020 } OS8021 } OS8050-52 }	<b>536</b>
OS7012	<b>535</b>	OS7125-28 } OS7139 }	<b>540</b>				
OS7012Y	<b>537</b>						

**S**

S10-17	<b>421</b>	S110-21	<b>424</b>	S215-19	<b>436</b>	S253-62	<b>437</b>
S21-32	<b>431</b>	S127-29 } S137-39 }	<b>440</b>	S220	<b>440</b>	S263-64	<b>433</b>
S40	<b>430</b>	S152-56	<b>425</b>	S221-22	<b>436</b>	S265	<b>441</b>
S41-42	<b>451</b>	S157	<b>427</b>	S223-24	<b>438</b>	S266	<b>443</b>
S45-46 } S51-52 }	<b>431</b>	S158	<b>425</b>	S225-26	<b>436</b>	S267	<b>446</b>
S61-62	<b>451</b>	S159	<b>427</b>	S227	<b>440</b>	S268-69	<b>443</b>
S65-68	<b>432</b>	S160-70	<b>425</b>	S228	<b>427</b>	S270	<b>446</b>
S71-72 } S81-82 }	<b>451</b>	S173-74 } S178 }	<b>426</b>	S229	<b>440</b>	S271-76	<b>443</b>
S101	<b>428</b>	S185-89	<b>437</b>	S230-31	<b>427</b>	S277	<b>446</b>
S102-06	<b>424</b>	S202-10	<b>422</b>	S237-39	<b>440</b>	S278-79	<b>443</b>
S107	<b>427</b>	S211	<b>453</b>	S241	<b>453</b>	S280	<b>446</b>
S108	<b>424</b>	S212	<b>422</b>	S242	<b>436</b>	S282-86	<b>425</b>
S109	<b>427</b>	S213-14	<b>433</b>	S243-44	<b>437</b>	S287	<b>446</b>
				S245-52	<b>436</b>	S288	<b>425</b>

## NUMERICAL INDEX—(Continued)

### S

Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page
S289	<b>446</b>	S394 } S397	<b>434</b>	S499	<b>440</b>	S622 } S629	<b>482</b>
S290-92	<b>425</b>	S400-01	<b>456</b>	S500	<b>456</b>	S631-34	<b>477</b>
S293-94	<b>437</b>	S403	<b>455</b>	S501-03 } S507	<b>457</b>	S640-41	<b>476</b>
S295-96 } S298-99	<b>444</b>	S404-06	<b>434</b>	S516-19 } S521	<b>445</b>	S643	<b>466</b>
S300-01	<b>422</b>	S407-08	<b>458</b>	S522-24	<b>460</b>	S644	<b>462</b>
S302-08	<b>423</b>	S411-12 } S416	<b>434</b>	S525	<b>461</b>	S645-47	<b>476</b>
S310 } S317-20	<b>453</b>	S420	<b>447</b>	S531-34	<b>450</b>	S648	<b>445</b>
S321-22	<b>444</b>	S421-22	<b>451</b>	S535	<b>455</b>	S650-53	<b>462</b>
S330-31	<b>428</b>	S424	<b>439</b>	S541-44	<b>450</b>	S659	<b>466</b>
S332-36	<b>423</b>	S427	<b>454</b>	S545	<b>455</b>	S660	<b>478</b>
S337	<b>427</b>	S429	<b>434</b>	S547-48	<b>457</b>	S661	<b>479</b>
S338	<b>423</b>	S430 } S433	<b>454</b>	S551-52	<b>450</b>	S662	<b>465</b>
S339	<b>427</b>	S437	<b>434</b>	S556-58	<b>434</b>	S663-64	<b>472</b>
S345	<b>465</b>	S438	<b>454</b>	S559	<b>435</b>	S663A-64A	<b>463</b>
S351-52	<b>435</b>	S442-43	<b>460</b>	S560-61	<b>434</b>	S665 } S667-70	<b>478</b>
S357-58	<b>458</b>	S451	<b>465</b>	S562-63	<b>435</b>	S672-73	<b>470</b>
S358A	<b>465</b>	S452-53	<b>453</b>	S577	<b>447</b>	S675	<b>467</b>
S359	<b>435</b>	S454	<b>435</b>	S580-83 } S585 S589	<b>448</b>	S676	<b>462</b>
S360-62 } S364	<b>453</b>	S457-58	<b>422</b>	S591	<b>467</b>	S677	<b>466</b>
S365-66	<b>435</b>	S460	<b>454</b>	S593	<b>462</b>	S678	<b>462</b>
S367	<b>458</b>	S461	<b>455</b>	S594-95 } S598-99	<b>477</b>	S679	<b>480</b>
S368-69	<b>435</b>	S463-67	<b>454</b>	S601-03	<b>482</b>	S680-82	<b>466</b>
S370	<b>453</b>	S470-71 } S474	<b>452</b>	S605-06	<b>445</b>	S684-86	<b>463</b>
S372-73	<b>434</b>	S476	<b>434</b>	S607-11	<b>482</b>	S687	<b>466</b>
S375-79	<b>458</b>	S478	<b>447</b>	S615-17	<b>445</b>	S688-89	<b>467</b>
S381-82	<b>443</b>	S481-82 } S486-95	<b>452</b>	S619	<b>482</b>	S690	<b>462</b>
S385 } S388	<b>434</b>	S498	<b>434</b>	S621	<b>500</b>	S691	<b>472</b>
S392	<b>435</b>					S692	<b>463</b>
						S693	<b>462</b>
						S694	<b>480</b>



**NUMERICAL INDEX—(Continued)**

**S**

Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page
S695	<b>471</b>	S757	<b>466</b>	S825-29	<b>470</b>	S894	<b>465</b>
S696	<b>463</b>	S758-59	<b>469</b>	S830-33	<b>482</b>	S895	<b>478</b>
S697	<b>472</b>	S761-62 } S763-65	<b>429</b>	S834	<b>481</b>	S896	<b>465</b>
S699	<b>463</b>	S766	<b>468</b>	S836-37	<b>428</b>	S897-99	<b>481</b>
S700-01	<b>480</b>	S767	<b>429</b>	S838 } S839	<b>461</b>	S900-01	<b>476</b>
S702-04	<b>476</b>	S768	<b>471</b>	S840-41	<b>428</b>	S902-03	<b>475</b>
S705 } S709	<b>478</b>	S770-72	<b>468</b>	S844	<b>481</b>	S905	<b>438</b>
S710	<b>468</b>	S773-74	<b>470</b>	S845-46	<b>428</b>	S906-07	<b>479</b>
S713-14	<b>480</b>	S775 } S777-78	<b>468</b>	S847	<b>481</b>	S911	<b>438</b>
S715-18	<b>470</b>	S779	<b>467</b>	S852	<b>428</b>	S912-13	<b>475</b>
S719-20	<b>483</b>	S789	<b>470</b>	S853	<b>429</b>	S914	<b>462</b>
S722	<b>462</b>	S790	<b>468</b>	S855-56	<b>482</b>	S915	<b>443</b>
S723-26	<b>483</b>	S792	<b>474</b>	S857-59	<b>461</b>	S916-17	<b>479</b>
S728	<b>482</b>	S792A	<b>465</b>	S862	<b>465</b>	S921	<b>443</b>
S729	<b>484</b>	S793	<b>462</b>	S866-68	<b>483</b>	S925	<b>439</b>
S730-31	<b>483</b>	S795	<b>463</b>	S870-71	<b>471</b>	S926-27	<b>478</b>
S732-33	<b>468</b>	S796-97	<b>472</b>	S873-75	<b>483</b>	S928 } S931	<b>439</b>
S734	<b>469</b>	S798	<b>463</b>	S876	<b>471</b>	S932-33	<b>474</b>
S735-36	<b>482</b>	S800	<b>474</b>	S880-81	<b>481</b>	S935	<b>444</b>
S739	<b>483</b>	S801	<b>465</b>	S882-86	<b>425</b>	S936-37	<b>474</b>
S742	<b>429</b>	S802-03	<b>429</b>	S887	<b>478</b>	S938	<b>444</b>
S744	<b>430</b>	S804 } S806-07	<b>428</b>	S887A	<b>465</b>	S940	<b>474</b>
S745	<b>466</b>	S810-14	<b>481</b>	S888	<b>425</b>	S941	<b>444</b>
S746-47	<b>429</b>	S815	<b>428</b>	S889	<b>481</b>	S945	<b>474</b>
S749	<b>469</b>	S820	<b>484</b>	S890	<b>425</b>	S962-67	<b>500</b>
S750	<b>429</b>	S821	<b>483</b>	S891	<b>475</b>	S970-71	<b>476</b>
S751	<b>483</b>	S822-23	<b>471</b>	S891A	<b>465</b>	S975-81	<b>438</b>
S752-53	<b>430</b>	S824	<b>484</b>	S892	<b>425</b>	S985-91	<b>439</b>
S754	<b>483</b>			S893	<b>475</b>	S997-98	<b>427</b>
						S1003-07	<b>486</b>

## NUMERICAL INDEX—(Continued)

### S

Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page
S1011-17	<b>485</b>	S1190	<b>492</b>	S1373	<b>492</b>	S1982-99 S2024-29	<b>449</b>
S1013-17K	<b>486</b>	S1191	<b>493</b>	S1375-76	<b>499</b>	S2103-07 S2110	
S1045-46	<b>487</b>	S1192	<b>487</b>	S1377	<b>492</b>	S2113-17 S2120-23	<b>491</b>
S1057	<b>486</b>	S1193	<b>493</b>	S1378-89	<b>499</b>	S2126-29 S2133	
S1058 S1063-66 S1067-70	<b>485</b>	S1194	<b>492</b>	S1390-92	<b>492</b>	S2136	<b>491</b>
S1071		S1201-05	<b>493</b>	S1401-05	<b>493</b>	S2140	
S1076-80	<b>485</b>	S1206-09	<b>485</b>	S1411-17	<b>488</b>	S2143-49	<b>491</b>
S1090-95	<b>488</b>	S1210	<b>489</b>	S1421-23 S1431-37 S1441-43 S1445-52	<b>498</b>	S2153 S2160	<b>490</b>
S1098	<b>489</b>	S1212-13	<b>487</b>	S1453-55		S2163	
S1100-07	<b>485</b>	S1215-17 S1231	<b>494</b>	S1461-63	<b>498</b>	S2168-69	<b>490</b>
S1108-12	<b>486</b>	S1233		S1467-70	<b>488</b>	S2170	<b>491</b>
S1113	<b>485</b>	S1234	<b>494</b>	S1473-77	<b>487</b>	S2177	<b>490</b>
S1114-15 S1116	<b>488</b>	S1239	<b>490</b>	S1481-83	<b>498</b>	S2222-26	<b>423</b>
S1117		S1244	<b>493</b>	S1490-94	<b>488</b>	S2227	<b>427</b>
S1118-25	<b>489</b>	S1250	<b>490</b>	S1510 S1516 S1522 S1526	<b>449</b>	S2228	<b>423</b>
S1126	<b>485</b>	S1253-59	<b>485</b>	S1531-34		S2229	<b>427</b>
S1128	<b>486</b>	S1270-78 S1280-88	<b>499</b>	S1538-39	<b>492</b>	S2230	<b>423</b>
S1129-30 S1134-39	<b>489</b>	S1292		S1541-44 S1561	<b>493</b>	S2233-38	<b>426</b>
S1143 S1148-49 S1151-57		S1301-05	<b>493</b>	S1562		S2242-50	<b>423</b>
S1153-57K	<b>486</b>	S1313 S1322-28	<b>487</b>	S1563-64	<b>493</b>	S2262-65	<b>424</b>
S1158A	<b>491</b>	S1331-34 S1339		S1570 S1578-80	<b>449</b>	S2273-78 S2343-48 S2375-76	<b>426</b>
S1159	<b>489</b>	S1341-43	<b>493</b>	S1621-22		S2442-44	
S1163-67	<b>490</b>	S1345	<b>494</b>	S1625-32	<b>436</b>	S2445	<b>461</b>
S1166-68	<b>491</b>	S1351-54 S1358-59	<b>493</b>	S1635-42	<b>437</b>	S2532	<b>459</b>
S1169	<b>493</b>	S1360-67		S1661	<b>501</b>	S2535	<b>455</b>
S1179	<b>488</b>	S1368-69	<b>490</b>	S1674-75	<b>447</b>	S2542	<b>459</b>
S1186-88	<b>493</b>	S1370-72	<b>499</b>				

**NUMERICAL INDEX—(Continued)**

**S**

Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page
S2545	<b>455</b>	S2612-14	<b>460</b>	S2895	<b>473</b>	S4321	<b>442</b>
S2552-54	<b>459</b>	S2615	<b>461</b>	S2896	<b>464</b>	S4640	<b>441</b>
S2555	<b>461</b>	S2622-24	<b>460</b>	S3006-36 } S3106-36 }	<b>496</b>	S4668	<b>442</b>
S2562-64	<b>459</b>	S2625	<b>461</b>	S3204-12	<b>497</b>	S4672-73 } S4715-18 } S4734 } S4758-59 } S4773 } S4774 }	<b>441</b>
S2565	<b>461</b>	S2632-34	<b>459</b>	S3323-26	<b>426</b>	S4828	<b>442</b>
S2572	<b>459</b>	S2635	<b>461</b>	S3506-36 } S3604-12 }	<b>497</b>	S4981 } S4991 }	<b>441</b>
S2574	<b>457</b>	S2652-54	<b>460</b>	S3806-36	<b>496</b>		
S2582 } S2592-94 }	<b>459</b>	S2655	<b>461</b>	S4000-04	<b>495</b>		
S2595	<b>461</b>	S2791	<b>464</b>	S4221-22 } S4261-62 }	<b>441</b>		
S2602-04	<b>459</b>	S2792 } S2893 }	<b>473</b>				
S2605	<b>461</b>	S2894	<b>464</b>				

**U**

U61 } (K7730) U66 } (K7740) U71 } (K7741)	<b>821</b>	U125 } (K7750)	<b>822</b>	U205 } (K7820)	<b>823</b>	U410 } (K7867) U427 } (K7888)	<b>826</b>
U75 } (K7735)	<b>822</b>	U95 } (K7766)	<b>821</b>	U292 } (K7847) U305 } (K7851)	<b>824</b>	U500 } (K7953) U510 } (K7967)	<b>828</b>
U115 } (K7746)	<b>822</b>	U105 } (K7790) U132 } (K7796)	<b>822</b>	U424 } (K7864) U425 } (K7863)	<b>825</b>	U320 } (K8005)	<b>831</b>

**V**

V100-02 } V106 }	<b>864</b>	V123	<b>868</b>	V133	<b>872</b>	V143-45	<b>873</b>
V108-11 } V114-15 }	<b>865</b>	V124	<b>867</b>	V134	<b>870</b>	V146	<b>871</b>
V116	<b>866</b>	V125	<b>869</b>	V135-37	<b>872</b>	V147	<b>873</b>
V117	<b>868</b>	V126	<b>867</b>	V138	<b>870</b>	V157-60	<b>878</b>
V118	<b>866</b>	V127-29	<b>869</b>	V139	<b>872</b>	V200	<b>885</b>
V119-21	<b>868</b>	V130	<b>867</b>	V140	<b>871</b>	V201	<b>890</b>
V122	<b>866</b>	V131	<b>869</b>	V141	<b>873</b>	V202	<b>885</b>
		V132	<b>870</b>	V142	<b>871</b>	V203	<b>890</b>

## NUMERICAL INDEX—(Continued)

### V

Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page
V204-06	<b>885</b>	V524-26 } V550-54 }	<b>751</b>	V631-33	<b>749</b>	V779 } V791-95 } V799 } V801-12 } V821-32 } V841-52 }	<b>747</b>
V207	<b>890</b>	V551-62	<b>749</b>	V634 } V638-42 }	<b>751</b>		
V208	<b>885</b>	V570	<b>751</b>	V643-45	<b>749</b>		
V209	<b>890</b>	V571-75	<b>749</b>	V646 } V650 }	<b>751</b>	V890	<b>756</b>
V210	<b>886</b>	V574	<b>751</b>	V651-53	<b>749</b>	V1195-99	<b>755</b>
V211	<b>888</b>	V575-76 } V582-83 } V586-88 }	<b>749</b>	V654 } V658-59 } V660-62 }	<b>751</b>	V1251-52	<b>892</b>
V212	<b>886</b>	V590	<b>751</b>	V663-65	<b>749</b>	V1260-62	<b>891</b>
V213	<b>888</b>	V591-93	<b>749</b>	V666 } V670 }	<b>751</b>	V1312-19	<b>876</b>
V214-16	<b>886</b>	V594	<b>751</b>	V671-73	<b>749</b>	V1444-47	<b>893</b>
V217	<b>888</b>	V595 } V600-01 }	<b>749</b>	V674 } V678-80 }	<b>751</b>	V1500-01	<b>902</b>
V218	<b>886</b>	V602	<b>751</b>	V681	<b>751</b>	V1502-16	<b>903</b>
V219	<b>888</b>	V603-05	<b>749</b>	V690	<b>749</b>	V1600-02	<b>905</b>
V220	<b>887</b>	V606-10	<b>751</b>	V692-96	<b>749</b>	V1604-18	<b>906</b>
V221	<b>889</b>	V611-13	<b>749</b>	V700	<b>751</b>	V1620-38	<b>907</b>
V222	<b>887</b>	V614	<b>751</b>	V701-18	<b>749</b>	V1641-46 } V1661-66 } V1671-78 }	<b>901</b>
V223	<b>889</b>	V615-16	<b>749</b>	V720 } V740 }	<b>751</b>	V1680-98	<b>907</b>
V224-26	<b>887</b>	V618-21 } V622 }	<b>751</b>	V751-54 } V759 }	<b>747</b>	V2250-59	<b>755</b>
V227	<b>889</b>	V623-25	<b>749</b>	V760	<b>751</b>	V2280-99 } V2300-15 }	<b>757</b>
V228	<b>887</b>	V626	<b>751</b>	V771-75	<b>747</b>	V2328-63	<b>758</b>
V229	<b>889</b>	V627-29	<b>749</b>			V3040 } V3048 } V3058 } V3078 }	<b>875</b>
V407-10	<b>893</b>	V630	<b>751</b>				
V500-02 } V506-14 } V518-20 }	<b>751</b>						
VG506-08 } VG512-14 } VG554-55 } VG574-75 } VG594-95 } VG602-03 } VG610-11 }	<b>753</b>	VG615 } VG622-23 } VG630-31 } VG642-43 } VG650-51 } VG662-63 }	<b>753</b>	VG670-71 } VG701-05 } VG713-17 } VG755 } VG775 } VG795 }	<b>753</b>	VG807 } VG811 } VG827 } VG831 } VG847 } VG851 }	<b>753</b>

**NUMERICAL INDEX—(Continued)**

**W**

Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page
W1001-51	<b>22</b>	W2701-43	<b>52</b>	W4600-17	<b>82</b>	W7151-85	<b>113</b>
W1060-1110	<b>23</b>	W2760-2802	<b>53</b>	W4618-44	<b>83</b>	W7201-35	<b>114</b>
W1121-71	<b>24</b>	W2811-53	<b>54</b>	W5001-51	<b>84</b>	W7251-85	<b>115</b>
W1180-1230	<b>25</b>	W2870-2912	<b>55</b>	W5052-5102	<b>85</b>	W7301-35	<b>116</b>
W1241-91	<b>26</b>	W2921-63	<b>56</b>	W5105-39	<b>86</b>	W7351-85	<b>117</b>
W1300-50	<b>27</b>	W2980-3022	<b>57</b>	W5140-74	<b>87</b>	W7401-35	<b>118</b>
W1361-1411	<b>28</b>	W3031-73	<b>58</b>	W5177-5219	<b>88</b>	W7451-85	<b>119</b>
W1420-70	<b>29</b>	W3090-3132	<b>59</b>	W5220-62	<b>89</b>	W7501-35	<b>120</b>
W1481-1531	<b>30</b>	W3141-83	<b>60</b>	W5265-5307	<b>90</b>	W7551-85	<b>121</b>
W1540-90	<b>31</b>	W3200-42	<b>61</b>	W5308-50	<b>91</b>	W7601-35	<b>122</b>
W1601-51	<b>32</b>	W3260-3310	<b>62</b>	W5353-81	<b>96</b>	W7651-85	<b>123</b>
W1660-1710	<b>33</b>	W3320-70	<b>63</b>	W5382-5410	<b>97</b>	W7701-35	<b>124</b>
W1721-57	<b>34</b>	W3380-3430	<b>64</b>	W5413-41	<b>98</b>	W7751-85	<b>125</b>
W1770-1806	<b>35</b>	W3440-90	<b>65</b>	W5442-70	<b>99</b>	W7801-13	<b>126</b>
W1821-63	<b>36</b>	W3500-50	<b>66</b>	W5473-95	<b>100</b>	W7831-65	<b>127</b>
W1880-1922	<b>37</b>	W3560-3610	<b>67</b>	W5496-5518	<b>101</b>	W7881-7915	<b>128</b>
W1941-77	<b>38</b>	W3620-62	<b>68</b>	W5521-43	<b>102</b>	W7931-65	<b>129</b>
W1990-2026	<b>39</b>	W3680-3722	<b>69</b>	W5544-66	<b>103</b>	W7981-8015	<b>130</b>
W2041-83	<b>40</b>	W3740-82	<b>70</b>	W5600-50	<b>92</b>	W8021-45	<b>131</b>
W2100-43	<b>41</b>	W3800-42	<b>71</b>	W5652-86	<b>93</b>	W8121-8239	<b>132</b>
W2151-93	<b>42</b>	W3860-3902	<b>72</b>	W5688-5730	<b>94</b>	W8301-09	<b>133</b>
W2210-52	<b>43</b>	W3920-62	<b>73</b>	W5732-74	<b>95</b>	W8407-19	
						W8517-21	
W2261-2303	<b>44</b>	W3980-4022	<b>74</b>	W5776-5804	<b>104</b>	W9001-25	<b>135</b>
W2320-62	<b>45</b>	W4040-82	<b>75</b>	W5806-34	<b>105</b>	W9065-69	<b>136</b>
W2371-2413	<b>46</b>	W4100-42	<b>76</b>	W5836-58	<b>106</b>	W9072	<b>137</b>
W2430-72	<b>47</b>	W4160-4202	<b>77</b>	W5860-82	<b>107</b>	W9073	<b>136</b>
W2481-2523	<b>48</b>	W4220-62	<b>78</b>	W6001-13	<b>108</b>	W9074	<b>137</b>
W2540-82	<b>49</b>	W4280-4322	<b>79</b>	W7001-35	<b>110</b>	W9075	<b>136</b>
W2591-2633	<b>50</b>	W4500-17	<b>80</b>	W7051-85	<b>111</b>	W9076	<b>137</b>
W2650-92	<b>51</b>	W4518-44	<b>81</b>	W7101-35	<b>112</b>	W9077	<b>136</b>

## NUMERICAL INDEX—(Continued)

### W

Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page
W9078	<b>137</b>	W9205	<b>140</b>	W9226	<b>141</b>	W9296	<b>143</b>
W9079	<b>136</b>	W9206	<b>141</b>	W9227	<b>140</b>	W9297	<b>142</b>
W9080	<b>137</b>	W9207	<b>140</b>	W9228	<b>141</b>	W9298	<b>143</b>
W9081-83	<b>136</b>	W9208	<b>141</b>	W9229	<b>140</b>	W9299-9317	<b>142</b>
W9084	<b>137</b>	W9209	<b>140</b>	W9230	<b>141</b>	W9327-59	<b>143</b>
W9085	<b>136</b>	W9210	<b>141</b>	W9231	<b>140</b>	W9371-9400	<b>144</b>
W9086	<b>137</b>	W9211	<b>140</b>	W9232	<b>141</b>	W9401-10	<b>141</b>
W9087-91	<b>136</b>	W9212	<b>141</b>	W9233	<b>140</b>	W9437-65	<b>145</b>
W9092	<b>137</b>	W9213	<b>140</b>	W9234	<b>141</b>	W9477-83 W9505	<b>146</b>
W9093	<b>136</b>	W9214	<b>141</b>	W9235	<b>140</b>	W9515-51	
W9094	<b>137</b>	W9215	<b>140</b>	W9236	<b>141</b>	W9553-59	<b>146</b>
W9095	<b>136</b>	W9216	<b>141</b>	W9237	<b>140</b>	W9561-91	<b>148</b>
W9096	<b>137</b>	W9217	<b>140</b>	W9238	<b>141</b>	W9650-91	<b>149</b>
W9097	<b>136</b>	W9218	<b>141</b>	W9239	<b>140</b>	W9701-35	<b>150</b>
W9098	<b>137</b>	W9219	<b>140</b>	W9240	<b>141</b>	W9745-77	<b>151</b>
W9099	<b>136</b>	W9220	<b>141</b>	W9249-59	<b>140</b>	W9787-99 W9809-25	<b>152</b>
W9100	<b>137</b>	W9221	<b>140</b>	W9271-83	<b>142</b>	W9830	
W9101	<b>136</b>	W9222	<b>141</b>	W9284	<b>143</b>	W9835-65	<b>153</b>
W9102	<b>137</b>	W9223	<b>140</b>	W9285	<b>142</b>	W9875-9905	<b>154</b>
W9123-24	<b>138</b>	W9224	<b>141</b>	W9286	<b>143</b>		
W9161-95	<b>139</b>	W9225	<b>140</b>	W9287-95	<b>142</b>		

### WS

WS1001-33	<b>161</b>	WS1563-1631	<b>168</b>	WS2033-2139	<b>174</b>	WS2549-55	<b>181</b>
WS1043-1107	<b>162</b>	WS1641-1709	<b>169</b>	WS2149-2255	<b>175</b>	WS2563-85	<b>182</b>
WS1133-81	<b>163</b>	WS1719-87	<b>170</b>	WS2265-2327	<b>176</b>	WS2595-2669	<b>184</b>
WS1205-69	<b>164</b>	WS1797-1859	<b>171</b>	WS2337-99	<b>177</b>	WS2709-13	<b>185</b>
WS1293-1385	<b>165</b>	WS1869-1931	<b>172</b>	WS2409-83	<b>178</b>	WS2721-47	<b>186</b>
WS1395-1475	<b>166</b>	WS1941-43	<b>166</b>	WS2493-2507	<b>179</b>	WS2759-2871	<b>187</b>
WS1485-1553	<b>167</b>	WS1953-2023	<b>173</b>	WS2517-39	<b>180</b>	WS2881-2987	<b>188</b>

**NUMERICAL INDEX—(Continued)**

**WS**

Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page
WS2997-3071	<b>189</b>	WS3561-93	<b>200</b>	WS3819-21	<b>209</b>	WS3975-4011	<b>218</b>
WS3081-3141	<b>190</b>	WS3603-11	<b>201</b>	WS3831-35	<b>211</b>	WS4021-71	<b>219</b>
WS3153-57	<b>191</b>	WS3617-53	<b>202</b>	WS3837-45	<b>212</b>	WS4081-83	<b>218</b>
WS3159-87	<b>192</b>	WS3663-79	<b>203</b>	WS3847	<b>215</b>	WS4093-4143	<b>220</b>
WS3189-3211	<b>193</b>	WS3689-3709	<b>204</b>	WS3849-51	<b>211</b>	WS4153-69	<b>221</b>
WS3213-17	<b>192</b>	WS3719-27	<b>205</b>	WS3855-57	<b>212</b>	WS4189-91	<b>220</b>
WS3227-73	<b>194</b>	WS3737-45	<b>206</b>	WS3858-75	<b>213</b>	WS4201	<b>222</b>
WS3285-3305	<b>195</b>	WS3755-67	<b>207</b>	WS3877-84	<b>215</b>	WS4211-13	<b>221</b>
WS3315-3401	<b>196</b>	WS3775-76	<b>205</b>	WS3885-90	<b>214</b>	WS4223-4301	<b>222</b>
WS3411-3503	<b>197</b>	WS3785-3800	<b>208</b>	WS3892-3905	<b>215</b>	WS4311-73	<b>223</b>
WS3513-31	<b>198</b>	WS3805-3810	<b>209</b>	WS3915-24	<b>216</b>	WS4395-4417	<b>224</b>
WS3541-53	<b>199</b>	WS3811-3815	<b>210</b>	WS3933-65	<b>217</b>	WS4457-87	<b>225</b>

**X**

X800-03 } X810-13 } X820-24 }	<b>406</b>	X1585 } X1595 }	<b>403</b>	X3970-78	<b>723</b>	X5770-76	<b>397</b>
X987-88	<b>410</b>	X1621-25	<b>405</b>	X3980-92	<b>721</b>	X5800	<b>394</b>
X1004	<b>407</b>	X1741-52 } X1761-72 }	<b>402</b>	X3994-99	<b>722</b>	X5801-05 } X5811-15 } X5821-28 }	<b>393</b>
X1005-09	<b>408</b>	X1775-79	<b>401</b>	X4020-39	<b>720</b>	X5830-31	<b>394</b>
X1024	<b>407</b>	X1880-83	<b>357</b>	X4120-26	<b>721</b>	X5840-48 } X5860-68 }	<b>395</b>
X1025-29	<b>408</b>	X1884	<b>358</b>	X4599 } X4600-35 } X4639-75 }	<b>348</b>	X5920-25 } X5930-33 }	<b>398</b>
X1034	<b>407</b>	X1886-91	<b>357</b>	X4639-75N	<b>349</b>	X5937-39	<b>382</b>
X1035-39	<b>408</b>	X1892-96	<b>354</b>	X5140-55 } X5170-84 } X5200-13 }	<b>389</b>	X5940-48 } X5950-58 } X5970-78 }	<b>398</b>
X1130-34 } X1140-44 }	<b>409</b>	X1901-20	<b>357</b>	X5340-55 } X5360-74 } X5389-93 }	<b>390</b>	X5987-89	<b>382</b>
X1371-79 } X1440-46 } X1450-56 }	<b>411</b>	X1926-28 } X1940-46 } X1951-55 }	<b>354</b>	X5710-13 } X5720-23 } X5732-34 } X5740-44 }	<b>391</b>	X5990-93	<b>399</b>
X1460-64	<b>404</b>	X3020	<b>341</b>	X5751-54 } X5761-64 }	<b>392</b>	X5994-95 } X5999 } X6000 } X6003-15 } X6023-25 }	<b>382</b>
X1472-78	<b>411</b>	X3501-09	<b>399</b>				
X1480-91 } X1520-31 }	<b>400</b>	X3895	<b>720</b>				

## NUMERICAL INDEX—(Continued)

### X

Cat. No.	Page	Cat. No.	Page	Cat. No.	Page	Cat. No.	Page
X6031-34	<b>382</b>	X6489	<b>344</b>	X8982-90	<b>377</b>	X10168-76	<b>741</b>
X6058	<b>340</b>	X6491	<b>341</b>	X9134-37 } X9135-36 }	<b>346</b>	X10178-81	<b>740</b>
X6064	<b>338</b>	X6499	<b>344</b>	X9138-39 } X9141-42 }	<b>345</b>	X10182-90	<b>741</b>
X6068-69	<b>339</b>	X6503-07 } X6513-17 }	<b>350</b>	X9145-47	<b>346</b>	X10215-18	<b>740</b>
X6070	<b>343</b>	X6640-48 } X6660-68 }	<b>396</b>	X9150	<b>412</b>	X10218-26	<b>741</b>
X6071	<b>341</b>	X6752-64 } X6770-78 }	<b>412</b>	X9178	<b>346</b>	X10228-31	<b>740</b>
X6072-76	<b>343</b>	X6782-88 } X6850 }	<b>412</b>	X9500-05 } X9510-15 }	<b>379</b>	X10232-40	<b>741</b>
X6091-95	<b>342</b>	X7950-55	<b>384</b>	X9520-25 } X9530-35 }	<b>379</b>	X10265-68	<b>740</b>
X6204-06	<b>336</b>	X7956-59	<b>381</b>	X9600-05 } X9610-15 }	<b>378</b>	X10268-76	<b>741</b>
X6214-16	<b>337</b>	X7980	<b>719</b>	X9620-25 } X9630-35 }	<b>378</b>	X10278-81	<b>740</b>
X6224-26	<b>336</b>	X8090-94	<b>381</b>	X9723-28 } X9733-38 }	<b>374</b>	X10282-90	<b>741</b>
X6234-36	<b>337</b>	X8300-12 } X8322-30 }	<b>352</b>	X9743-48 } X9753-58 }	<b>374</b>	X10462-68 } X10475-80 }	<b>737</b>
X6367	<b>342</b>	X8350-55	<b>380</b>	X9923-28 } X9933-38 }	<b>374</b>	X10675-89	<b>742</b>
X6368	<b>336</b>	X8913-21	<b>376</b>	X9943-48 } X9953-58 }	<b>374</b>	X10714-19 } X10734-38 }	<b>735</b>
X6369	<b>342</b>	X8922-30	<b>377</b>	X10115-18	<b>740</b>	X10800-08	<b>739</b>
X6372	<b>336</b>	X8933-41	<b>376</b>	X10118-26	<b>741</b>	X10876-79	<b>735</b>
X6373	<b>337</b>	X8942-50	<b>377</b>	X10128-31	<b>740</b>	X10943-50 } X10953-63 }	<b>736</b>
X6374	<b>336</b>	X8973-81	<b>376</b>	X10132-40	<b>741</b>	X10971-74	<b>735</b>
X6375 } X6385 }	<b>337</b>	X8982-90	<b>377</b>	X10165-68	<b>740</b>	X10985-87	<b>738</b>
X6439	<b>344</b>	X8982-90	<b>377</b>			X10994-98	<b>737</b>
X6463-69	<b>350</b>						
XT5370-86	<b>699</b>	XT5520-30	<b>699</b>	XT5560-70	<b>696</b>	XT5600-02	<b>701</b>
XT5406-26	<b>696</b>						

### Y

Y2033-39	<b>364</b>	Y2055 } Y2076 }	<b>364</b>	Y2193-95	<b>360</b>	Y2410-14	<b>361</b>
Y2049	<b>359</b>	Y2140-44	<b>359</b>	Y2330-36	<b>363</b>	Y2422	<b>365</b>
Y2052	<b>365</b>	Y2189	<b>360</b>	Y2340-54	<b>364</b>	Y2428-32 } Y2438-42 }	<b>362</b>
Y2053-54	<b>359</b>	Y2190-92	<b>361</b>	Y2401-05	<b>360</b>		





